









Journal
of the
Royal Naval Medical Service.





Journal
of the
Royal Naval Medical Service

EDITED BY

MAJOR CAPTAIN R. M. G. S. BOND R.N.

AND

MAJOR COMMANDER C. A. DYSEL R.N.

ASSISTED BY

MAJOR CAPTAIN R. M. G. S. BOND R.N.

AND

MAJOR COMMANDER D. O. M. DICKENSON R.N.

VOL. X

1924

PRINTED BY HODGKINS & DODD, LONDON

MADE IN ENGLAND

ALL RIGHTS RESERVED FIRST CLASS ADVERTISING



Journal
of the
Royal Naval Medical Service.

Original Articles.

VARICOSE DILATATIONS IN FIGHTING COMRADES

By NORMAN CURRIE, L. T. HONORARY L.S.

(Director of Base C to the War Office)

In addressing you on this subject I have purposely chosen a title which gives no considerable hint as to the subject I propose to give a brief description of the clinical features of disorders of the venous system and to then refer to them in connection with the Army during the late war, having my own personal experience given before the War Office Committee of Enquiry into Shell Shock, which was presided over by Lord Northcliffe and in which Committee I had the privilege of being an Advocate, representative.

I shall then refer to their incidence in the Navy during the war and shall conclude of them and some practical points with a few remarks on the treatment of varicose and varicoid veins in the Navy.

Choosing to recall that these words are addressed to a non-military audience of officers, I am embarrassed with the necessity of offering explanation and apology as I shall have to speak of them and to ask you to consider that we may be the subject of it. This has been no desire to show your attitude on the numerous code words necessary and explaining them in detail and which possess our personal relations when one may be in question. In the Navy as in our other Forces we have no objection to this conventional attitude then, together with thousands of letters in respect and notice as in the day of and with us when I speak to you of how I am with the general for doing so of our condition that it is purely in the period, as I expect that I have occasion to discuss it.

The naval officer though unaware of it, should be and usually is a practical psychologist in dealing with the men he commands. It has to

may find, coming to most men to find his nerves weak and how they are affected.

Summing up, it can be said that nervous and mental disorders of combat troops grow out of three very many causes, the study of which will determine the gravity of the disorder resulting in the individual and lay the necessary basis for definite remedy.

Summing up, the consideration of the nervous system and nervous disorders may be said that we should have some conception of what Mind is composed of when Mind contains

(1) Consciousness, is made up of —

(a) The Conscious Mind

(b) The Subconscious Mind

(c) The Unconscious Mind

For, since the Mind is represented by all the thoughts which are known to themselves at the time

(2) The Unconscious Mind (the subconscious) is concerned with ideas which normally brought into consciousness by the process or processes of perception (senses)

The Unconscious Mind has memories or ideas stored away which can and do brought into consciousness with extreme delicacy and usually by the stimulus of hypnosis or psycho-analysis

It must still be seen that there is a unity which keeps and coordinates between the conscious and subconscious mind and that both of any form of disturbance in the individual

and (3) The Unconscious mind that memories of very painful or terrifying experiences may be buried as well as ideas which are represented by the primary process of self-protection and of the reproductive control when the fulcrum of the same system be disturbed or perverted

With the healthy individual the contents of the subconscious mind are elaborated with the help of time or by suitable action and in others, i.e., the abnormal, they give rise to nervous manifestations in the form of hysteria or other diseases

The first two disorders of the nervous system known as nervous or psychic diseases, with which we must concern ourselves are those in which the system, neurasthenia, anxiety nervous and compulsive neurosis

They may occur in an individual when in clearly defined type or recurrent — in any case the influence on popular language is said to have a serious influence. The cause is usually to be found in due to a lack of adaptability of the individual to the complexity of his surroundings. You will thus see that lack of adaptability — he may be mentally available — may be the chief weakness or on the other hand, the surroundings may be so overwhelming that, though of normal stability he still may break down on the nervous side and develop a nervous the particular form of nervous depends on the proximity of the influence. Those who have been

abnormal and extreme in childhood appear to be (and with us develop abnormal as adults) as adults while those neglected in their early years and who have not been properly treated or educated are prone to manifestations of hysterical nature.

Syndrome.—The word is derived from a *symp* which means "together" it being formerly supposed that the symptoms arose from that source.

Emotional due to physical disease is usually emotionally depressed as is the mind presenting causes. Fear, grief, shame, anger or unhappy love are the common patient factors.

The signs of hysteria may show themselves suddenly or without the trace of the shock or may appear little by little. The characteristics of the disorder are of very variable nature but suggestibility is a feature which is most present. The sufferer is usually hypnotized develops manifestations which in a sense he controls the circumstances and is usually of a morbid character.

How much is conscious and how much is unconscious is the question as it often impossible to conclusively decide. There may be evidence of some speech being lost or demonstrated a very low phonetic concept may last for a period, paralysis of the limbs closely resembling that of a paralytic stroke may appear, or sensation may be lost or exaggerated delusions or convulsions may be exhibited.

In a hysterical fit the patient struggles and sometimes convulsive movements of the limbs or her muscles may become rigid or flaccid. These fits are without danger. The individual never hurts himself he will not fall into the fire or under a train, or even bite his tongue and in this respect they differ from epileptic fits in which to the casual observer and occasionally to the skilled they offer a close analogy. Hysterical is a marked characteristic of hysteria, and for this reason Charcot termed it "La grande simulation."

Hysterical Fugue may be mentioned as it may it may lead to great confusion. In this there is clouding of the mind, the sufferer may wander away and may lose all knowledge of where he has been or what he has done, behaving as automatic beings and possibly surviving himself entirely. The onset of this is very often hysterical suggestion, and it has been observed he followed by a few days of shared personality and of mental activities—a dissociative state. On the mental side experiences rapid changes of mood, unreasonable ideas and delusions, excitations and depression of emotional state and weakened power of judgment are frequently met with.

Neuroticism (hysteria)—a term and others, strength and a dependency.

The term is an unhappy one and often used in a general sense to indicate almost any condition of abnormal nerve disturbance. More recently it has become necessary to limit its use to a particular group of symptoms of which Charcot's hysteresis is the most prominent.

The patient centres his attention on himself and when called on to

progress in physical culture, other than bodily and mental fatigue, headache, dizziness, nervousness, etc., suggested especially those associated with health. In numerous attempts, there is danger on looking at anything and the subject becomes a burden to himself and his associates. Results were good. Accommodation is accomplished of and attention is frequent.

Acute Anxiety.—This kind of nervous disorder is characterized by apprehensions, depression, irritability and tendency to collapse. The signs usually observed being that are present—a quickened pulse, sweating, tremor, and an overabundance of stomach, heart and other signs.

Looking, therefore, symptoms are of frequent occurrence.

Compulsive Diseases.—This species of psychasthenia includes a full of cases believed to originate in thought. The different phases are various. Among these, group and amongst the most common are compulsive thoughts of the form of space or closed space, fear of fire, fear of death, etc.

The "phobic" cases, in the early stage of the disorder may be associated with other conditions.

Painful Anxiety and Nervous Disorder.—This is a combination of injury and an addition to a full stage of injury any form of nervous may become unmanageable. It is a form of nervousness, (perhaps, an injury) has perhaps been been left, ordinary signs, a condition which sometimes occurs in the healthy apparently healthy individual as a result of being in a railway collision. By looking upon the space and just at the edge of the nervous system, persons, however, adaptation is frequent and it has been observed that, the pain having subsided changes, a speedy cure follows in many cases. It is, however, as a condition, as such conditions as medical treatment. It is agreed that there may be no without causing any impairment in the brain cells of the subject and that, in some cases, has resulted from the mental liberation from the tendency to prolong or exaggerate his nervous distress. In the case of those suffering from rheumatism it has been observed that a speedy and brief treatment of their pains to patients by means of a lamp was found to be most effective in shortening the duration of their nervousness and the pain on a case of great interest in the Minister of Finance who still has more \$10,000 worth pain on his list.

It is also true that a potent factor in the production of nervousness is the nervousness of the body. The most important physical manifestations of this are pale, enlarged pupils, rapid pulse, sweating and trembling. Years ago James, an American psychologist, formulated the following theory that it was only when these physical signs are so potent that the nervousness of the body could then be felt. This, however, is by the way, but it may be accepted that accompanying the nervousness of the body and the usual external signs there are physiological changes taking place in certain glands of the body which discharging their secretions into the blood-stream produce powerful effects on the heart, muscles and nervous

others. The first showed about as little emotionality as a soldier in the physical state. There was nothing that was recognized as the emotional peak (excitation, lack of awareness or changing, speech and limited voluntary control movements, intense but brief shocked states).

It is never safe to accept a final level of proof of those who battle with us, but we have the evidence on the fact that we are all subject to fear and that we can make voluntary submission to a nervous breakdown with regard to the possibility of self-harm.

In the last five—the last of it—management was a highly trained and highly disciplined as well as the soldiers against superior resistance and in return, here still with the horses which was expected. In them, were even in those early days, numerous cases of "gross" behavior, according to Dr. Gordon Thomas, who is a skilled neurologist, would think, but the war, such cases however, were relatively few. The degree of stress in our early cases, however, was not so much as the last, that training, discipline and length of service tend to decrease the ability to stay in the field. You will recall that on the outbreak of war, thousands, added to the others, died in October 1914, the British scheme was abandoned, and that in January 1915, the Longshank Military Service in its limited form was introduced. As a proportion of the conscripted had no stomach for fighting, nervous symptoms were not infrequently observed amongst them as soon as recruited, and according to Warren Fawcett, the horse cavalry were filled with nervousness who had never been out of the country. They were genuine enough for the most part but their susceptibility to the circumstances of war seemed to be the serious disorder of nervousness type to which they succumbed.

There have been found the mental weakness, but there was also a considerable number of mental defectives and though some of them undoubtedly made good, the majority proved unsoundly and nervous as soldiers and as such, the number of those who never reached the front line, or having reached there developed a nervous or psychotic.

Neurotic states also arose that had all conventional symptoms which we find included at least some, in whom the conventional attitude was unconsciously suggested by the conditions induced by training and self-protection. Having themselves what occurred at home, let us now review the conditions which obtained.

At the Front—in many, most there were, intense bombardments and most shocking experiences, explosions of fire and aerial explosives, bombing by land and by aircraft, attacks with fire and poison gas, and added to these factors were the cold, rain, privation and darkness of the trenches, the loss of one's comrades and last, little prospect to the thinking mind when there was that of imminent violent death.

Troops when engaged in such battle conditions for the first time were as might be anticipated, very liable to break down on the narrowest, altogether apart from any physical injury. One terrible wave of panic

well aware of the advisability of introducing their men in battle conditions gradually, but nervous breakdowns arose when untried troops had perhaps to be thrown into action. It was under such circumstances more particularly if the tide was against us, that numbers were killed or badly hurt paralyzed by fear.

From a most carefully considered analysis of evidence, it may be stated that of those severely affected 90 per cent. approximately had not received any physical injury. Only about 10 per cent. had been directly affected by explosion or other physical violence. In many instances it was impossible to say whether the individual had been thrown up, blown on earth, or struck by some object such as a sand bag or mine or earth projected by an explosion, but the figures given above are held to be a fair estimate.

It may be presumed of troops participating in battle for the first time that the nervous breakdowns among them were the first to kill out. As the war progressed officers broke down, and there appears to have been a cumulative effect, so that eventually even those who had enjoyed superb bravery on many occasions, becoming nervously exhausted, were liable to the further danger. An instance was cited of a man who had been "over the top" two times and was unable to face the strength of their "poor little court-martial" rather than make the necessary effort.

Intensity prior to impending attack proved to be a considerable additional strain to the nerve, and according to the well reasoned opinions of the late Lt. Brown, the explanation is to be found in the repetition of that "manipulative activity" which he holds to be man's reaction to danger. The higher we climb the endeavorers to remove the danger or himself from danger. Reaction when danger threatens shifts to nervous strain and should be released with it. It was noted that observation on hilltops or overridges where one was prone to collect more than three minutes unaccompanied but actively engaged. In the few hours or minutes was about the limit of nerve endurance.

Solitary or detached duty of a perilous nature was found to be particularly trying, due to lack of that confidence which mutual support supplies.

The introduction of personnel prone into warfare added to the nervous and at first being an unknown factor, had for that reason according to Lt. "John" additional effect. In numerous instances when the soldier had recovered from the physical effect such as laryngitis or conjunctivitis, he continued to exhibit manifestations of functional nervous disease. Loss of voice caused by laryngitis remained as hysterical aphonia; "red eyes," though cured was prolonged in the form of drooping of the upper lids or tremor of their margins.

References may now be made to what may be spoken of as the reversion of nervous disorders. St. Vincent Dumas, as you may know, was a famous name of the Middle Ages. Some affected wounded officers who by long patient and systematic becoming themselves doctors, needed a physician.

in the death of St. Valentine be cured. And so with the examples of war, contact with those paralyzed by injury or debilitated nervously may have had some such suggestive influence on others whose stability was weakened by the horrors they had experienced or anticipated. This suggestive influence coupled with the probably unconscious withdrawal of individuals from the danger zone, gave rise to their cases. In argument, subjected to similar exposure and danger there was often a noticeable difference in the number of cases of nervous hysterics, and though this was held to be primarily a question of offering it was probably also determined to some extent by the influence of contagion, and we may conclude that the attack of a unit is liable to be augmented by the example of its fellow members who readily succumb. The attack not be confined with a place where in a fight without reasonable cause be fear and is sustained as proof that man is a gregarious animal and subject to 'herd instinct.' You may remark that this is Greek mythology half goat, half man, so terrified by mother as birth that she fed him lion. Later he surrounded the worship of the Greeks by making their goddess, the Perseus, with horns in his position, it was noticeably observed that patients with both the mother with them developed hysterical paralysis or other form of nervous or sensory organs of being in company with organic cases and their discussion being suggestive.

With regard to treatment of such nervous disorders as might be termed hysteria, the experience gained in the late war demonstrated beyond question that the more the sufferer was kept in the front the more likely was he to recover, and this knowledge when gained was made full use of. Neurological centers were established in the advanced in the battle zone as was possible, unstable cases were treated and treated there. Many valid cases were found to recover after a brief rest in the front ports.

The wrong thing for the hysteria was that he should receive prolonged hospital treatment with or without the presence of his own long war-torn and but little good resulted in those unstable cases and treated in some hospital with unlimited supplies of chlorides, opiates and other sympathy. The speedy removal of all gross hysterical manifestations was aimed to recover.

The treatment of those who broke down with neurotic symptoms failed. They needed relief from responsibility and frequently recovered when given it. By intelligent observation precursory signs of impending nervous disorder could be noted and the individual concerned moved from actual break by a temporary timely escape from exposure to the conditions affecting him.

Regarding the nervous disorders which may be maintained by the stress of war and its sequelae, we agreed that combatant officers who had some understanding of the nature of such ailments were better fitted and more capable of measuring the strength of their command by virtue of the pathological knowledge they possessed.

Officers of highest rank and experience have expressed the opinion that nervous disorder constituted half or more proportion in a regiment. It would be found that it was primarily due to confinement on the part of the men.

The most prevalent of nervous disorders regarded by fear was attended to by all as depending on warlike. There are other considerations which arise which we may now proceed to review.

Prevention — We may ask now, can the nervous breakdown which occurs be prevented?

A certain amount of good would result from a more searching and less unassuming medical inquiry at the time of recruiting, but it is clearly during a recruit's first few months of service that the nervously predisposed and unfit could be detected and eliminated.

In the American Navy a list of Behaviour Characteristics was formulated and served as a useful guide to those concerned with the training and breaking of the recruit. The Behaviour Characteristics were —

- (1) Restlessness, to discipline or inability to be disciplined
- (2) General sympathy or antipathy to drills or exercises
- (3) Inability to transmit orders correctly
- (4) Excessive cleanliness
- (5) Excessive dirtiness
- (6) Abnormal sex practices and tendencies
- (7) Idle language and dishonesty of property
- (8) Excessive feminine type
- (9) Bad nature
- (10) Subjects of continual sickness or injury
- (11) Quies or peculiar behaviour

(12) All recruits who show prominently the following characteristics: Irritability, variability, indecisiveness, selfness, depression, cynicism, timidity, antisocial attitude, over-honestness, suspicious delusion, sleep loss or sleep walking, chronic homesickness.

With a force already under arms the suitable time for elimination of the unfit has passed, and for maintaining the existence of nervous disorder the most powerful and most powerful prophylactic is Morale the establishment and maintenance of Morale. General Lord Haig, Sir John French and practically all of the experienced and distinguished veterans who gave evidence before the Royal Medical Committee were of one opinion.

In this all-important question of Morale I have no need to make further remark. In his recent admirable address on the subject Commander Byde gives, as I may be permitted to comment, a very powerful and convincing argument.

The question as to whether men could be profitably initiated in the treatment of nervous disorder or put through any special training with a view to increasing the fortifying and nerve-raising effect of high explosives and machine warfare was unproductive of satisfactory affirmative reply.

These typical emergencies, each procedure is being expounded. In the American Army the troops were put through one with plans of treatment if they gain the extreme point in the "Still or all" Committee was very, however the result was not encouraging. "So called shell shock" was notoriously prevalent in the American Army. As regards officers however, the speech provided that it would be well if they were educated to some extent of the dangers and best methods of recognizing such functional nervous disturbances as were incident to active and intense warfare. In particular it was considered that it was of great importance that officers should make a study of the character of their own and maintain to comprehend these personally.

The very great influence of the individuality of the medical officer to the front line was referred to repeatedly. There was no room for him to be a neurologist (detailed examinations could not be made in the trenches but at least he should have a general knowledge of functional nervous disorders and be able to recognize them in their early stages, for it is then that they can be most readily checked and stopped and it is then as well as later as that inappropriate handling of such cases may be productive of much harm.

Nervous Disorders and Disciplinary Disorders—We can accept without reservation that no commander ought not to deal harshly with at, punish a person who was irresponsible. In many cases which occurred during the war very great difficulty in dealing disciplinary cases, and this you will readily understand if it has been made clear to you that here society apprehension—was what term you will—was in general when coupled with repression of the escape of the tendency of self-preservation from the effects of nervous breakdown. In hysteria there is essentially a considerable degree of culpability and the difficulty is to decide where minimal stimulation and not consciousness or unconsciousness. All cases disciplinary cases were referred for the opinion of an expert neurologist, but even then much doubt existed in many instances as to the border line between the conscious and unconscious in hysteria.

The Commander is confronted with the knowledge that if officers becoming of nervous are tolerated, the result is a lowering of morale and on the other hand, that in many cases, the offender is possibly curable. The procedure adopted in the late war was the best solution which could be found and if cases occurred they were certainly more on the side of leniency than otherwise.

As a matter of general information concerning the nervous men with in warlike, the following are the chief points most worthy of being borne in mind.

(1) The nervous disorders of war are of the most acute and therefore as such with as great time as is available. They are more frequent because of the circumstances which surround the treatment or relieve the nervous system.

(3) *Observation and judicious treatment by those in responsible positions may save many of those threatened with nervous breakdown from collapse.*

(4) *Disclosures of hysterical states are more commonly met with in the lower and less educated of noncommissioned officers amongst officers and the latter educated their personnel.*

(5) *Hysterical manifestations are easily checked in their early days and should receive prompt treatment. When they become fixed they are far more difficult to deal with. Anxiety nervous symptoms pass and relief from responsibility before the subject of it loses all reliance on himself.*

(6) *Emotional cases are best released and not far removed from the atmosphere of the fighting line. Finally —*

(7) *Though recognizing that there is a limit to the capacity of all to endure nervous endurance, nervous disorders will certainly remain insignificant in numbers if a high standard of morale can be maintained.*

It is a matter of interest to note that the Germans also had compulsory military service long before the outbreak of war, apparently suffered from war neuroses seriously not less than we did.

Georg, a leading German neurologist, wrote in 1913: "The number of cases of war neuroses is estimated nearly large as is shown by the enormous swelling of our nervous hospitals, and a steady daily rise in these numbers is continuing. I have had 1,000 such cases, and the same statement would hold for every other branch."

The official returns of the health of the German Army quoted in a Munich paper for the first and second years of the war give for nervous disorders a sick rate of twenty-four per 1,000 strength.

Nervous Disorders in the Army in the Last War — Though the statistics have not yet been officially published, I was able to collect some information on the subject, and was given access to official returns and the medical journals sent in by medical officers during the war, and also in many instances to leave doctors, the representatives of medical officers who had participated in the most important naval engagements.

There were 708 cases actually certified as insane and sent either to Yarmouth or to civil mental hospitals. In addition to these there were other cases of mental derangement which were provided and transferred to the care of friends—making, with the certified cases—nowhere about 1,000 in all.

Of nervous—usually retained as noncommissioned—there were more than 50,000 cases.

The most shell-shock was not caused by naval M.O.s, and even during the last year of war, when it might have been expected to have been made use of, there were only sixteen cases reported from the whole Navy. There were, however, throughout the war mental cases which even in the darkest legislation of the war-time were ought have been so classified.

After the Jutland battle several medical officers made special reports on the nervous or mental effect on the crews of which they had reached ships, and noted that little, if any marked reaction was observable. Nervous disorder was extremely rarely observed immediately after action. In the *Wasp* the M.D. reported "only two cases of nervous trouble can be traced to action."

In the *Malaga*—181 wounded, including 1 killed including—the medical officers knew of only one case—hypertension, loss of vision—immediately following action. It is interesting to note, however, that shortly afterwards when leave was given those men who did not return were troubled by various psychoses as suffering from "shell shock."

The *Southampton* with eighty-two wounded and thirty-four killed returned their cases of neuroticism attributed to action.

The *Tiger* on action January 31, 1915 with some thirty casualties, reported one case of neuroticism and to be due to action. Notwithstanding the remarkably few cases reported by the medical officers of the ships, the hospital records show that numerous cases of neuroticism obtained later on had been engaged in the Jutland battle. I remember meeting at Portsmouth R.M. Barracks a dozen or so of men who had come down there either slightly wounded or returned from ships which had been sunk in the Jutland fight. They were all in a highly emotional state and capable of developing neuritis. They quickly recovered a normal nervous control when kept away at long spots from others and given a word of advice, food, rest, and sleep.

Neuroticism, clearly in the form of anxiety neuritis, was then the nervous disorder which affected the Navy. Its incidence was clearly due to mental strain and exhaustion of or fatigue of the nervous system manifested itself.

While fully recognizing that there were far more prolonged periods more vivid and terrifying experiences for the sailor than for the trainee in the line war, and that there consequently was far less emotional disturbance in the Navy than in the Army, it is not impossible that the sailor had psychological advantages compared with the soldier. The life of the sea had taken him to dangers.

He fought on board ship, on his own ground as it were. He cannot fail to recognize that the perils of the moment to him from danger are responsible of reflection, and is therefore freed from a mental conflict, and is forced to adopt the attitude of having "his back to the wall," and, in addition, he probably has the advantage of having experienced many battle periods and is at least not green.

Thus again the medical officer knows the sailor pretty well and the sailor knows the medical officer, and this mutual understanding is of advantage in showing any weakness or subconscious abandonment of self on the part of the sailor. It would be quickly detected and suitably dealt with.

There was a great deal of talk at Johns of Mad Hospital the night of that hot night absorbed by those officers who had the early handling of cases which are destined as emotional shell shock would have them prefer to shed any suggestion of a wrong as being likely to offer an increased escape from the dangers of the front. The latter drew attention to the war in print, vivid things from the Mediterranean theatre, devoted to the such ordeals being now to take place under his physician Dr. Sargent—James, who at the moment is treated as appropriate, and selected here short brought I expected to be more present, and further as a rough guide as our work to be conducted within he had lost a touch or suffered from acute fatigue.

We now now pass on to briefly consider disorders of nervous or mental nature which are met with in peace time, having particular reference to certain forms.

Disorder of Mind and Nerve in Peace Time—Colonel Walker is one of the who the other day in a class of military officers gave a warning to a group of the next war that it to be. It will be long a from the as will point get will his nature and then enter population.

Though the date was not given it may be guessed, judging by history that it will take place before war will have, in the progress of his evolution changed his nervous system and the known taught by the late war as regards nervous disorders may be considered as applicable to this time.

Mental Defectiveness—A peace time Navy should be prepared to receive the persons for which it exists and its members constituted accordingly. There is therefore no place in the Navy for the mental defective, the individual who suffers from lack of proper mental development and intelligence.

You will understand that there are varying degrees of this condition and that physical development may not be affected. There are various kinds—Deep Defectives and others—for defining the degree of defectiveness, but these we are which are equal in value the personal characteristics which an officer or sailor can acquire during the brief few months of a recruit's service.

It would be during at the end of this time that all mental defectiveness is known, the input for these things should be developed. Something should be made to try and eliminate a simple procedure. No doubt you may find it most common in the various ships you have served in of course with men, mentally deficient, unable to transmit or carry out an order or function. This is not an easily got rid of since they are physically fit. However it is not selected through a service.

Mental Disorders—Of the definite mental disorders met with in the service I shall only refer to two, as there are by far the most common types and their onset is often sudden and marked by frequent repetition on the delusions, but

The first is *delusional insanity* corresponding with what is technically named *delusional psychosis*,—that is early progress to degeneration of mind.

It usually occurs between say the years of age and the early 50's and is believed to be due to changes or degeneration of the brain of development stages. The earliest indication may be a noticeable change in character and conduct. The individual may show his excessive passion a stage without apparent cause adopt unwonted habits or groups his routine duties but his clothes, hair, away is old fashioned and not edily and shabbily. Many branches of discipline though punished someone as evidence until fairly it becomes obvious that he is the subject of suspect insanity.

When, however, such cases develop delusions of persecution or gross disorder of conduct, as may well be the case, the nature of their disorder is usually recognized and they are appropriately dealt with.

Sometimes the onset and progress is very slow and the disorder remains dormant. They are able to run a living but change of environment such as coming on board the Navy and leaving their routine home life may start the full sailing and they show or later develop signs of dementia and prove their insanity. As a rule many of this type become permanent and mental deterioration progresses gradually but surely. If, then a man of 50 years or so of age who has hitherto been fairly well disciplined is found to be excessively violent, but the dementia is to common heretofore at routine duty without apparent cause and appears to be at a loss to appear calm or explain in any way his delinquency, it may be well to look to ward the possibility of his being susceptible and to make further investigation.

The second form of insanity, to which I wish to refer is General Paralysis of the Insane. This is a mental and bodily affection which is a late result of syphilis, showing itself on an average some twelve years after infection. It very rarely appears within less than seven or eight years but may be delayed for twenty years or more, according to already mentioned factors present in the individual.

It usually proves fatal in two or three years and it is not much time for the disease to render stationary or show other than increasing and delirious improvement. Happily, only a small percentage of those infected develop this form mainly but there appears to be a strong tendency for it to attack the intelligent those who have been of superior intelligence. And so we find the worst officers in a class more likely than ratings of the same age and the disease is far more common in commissioned officers.

It may develop suddenly with a sort of fit or with mania as there may be an initial state the latter makes individual events his concern, his powers of his stable and he is totally incapable of recognizing his environment around. He looks caught up in himself. Usually, however, there are signs in the earlier stage and of these signs impairment of memory is the most common. A person very completely forgetful where he has left his gold watch to be needed or having signed at the post office for his previous letter without the money. If then attempt you now of

as yet, it is to make you observe that their nervous system is uncontrollably at fault—*Volunté* is no concerted handiwork in their leaving, or if they remain fixated or stuporous or if they appear in the debilitated but far from moribund condition in their unaccountable good behavior of you have not, that's very close to the medical examination. It is far from uncommon in fact to find an ordinary life for them each case of general paralysis to pass unperceived and many are mistaken for neurasthenia—45 per cent. I found in a series of inquiry I made into 100 consecutive cases.

Of the questions I have already asked as they appear in war. In peace time, too, you will occasionally encounter them in their actual stages. You will recognize an extreme emotional stage if it occurs as being conducive to hysteria and by a somewhat coupled with a few words of sympathetic advice you will succeed in reestablishing the individual's self control.

The neurasthenic type you may detect by the reaction of observation and by giving a rest to or temporarily relieving him of his duty you may be instrumental in forestalling a more serious nervous breakdown.

During this opportunity I feel impelled to say a few words concerning a subject connected to all—*Godsday*. In its most medical aspect it has great scope to much discussion and many volumes, a great number of who have long written for my consumption. That there is a medical aspect of the question may be taken for granted, and in certain cases the good reply to that statement may be a manifestation of mental development. Hence cowardly—moral situation for the time being is commonly recognized as starting on a basis of developmental defect. I mention this that you may be made aware of it if not already so and also as a reason for reference to such subject. It is far from my intention, however, in any way doing which might lead you to view this war as it often is the Navy is not other light than as an abnormal depravity for which the subject should be treated with sympathy.

The abnormality arises in dealing with the laws which now appear to be somewhat lacking in vigor. Proof of the offense is certain and there is not unusual defects in publicity in such moral matters. It appears to me, however, that the end might be forestalled if observation of a more exact standard of the offense were made to reflect more force of open indignation and if more were done to check the needless use of terms so familiar as the *leave drink* and *even discharge*.

Spelving (i.e. *shit*), is commonly met with in the Navy and when recognized as true *spelving* the offense is promptly punished. Not only is he a danger to himself in being liable to suffer loss of consciousness, irrespective of time or place, but there is frequent mental change with disorder of conduct.

The fit may be quite frequent and the danger does itself in mental change. In observation of this it is necessary to give the instance of a well known judge who, to the surprise of the court, behaved himself while

engaged politically, wrote papers and then proceeded with his duties otherwise of the "mission" he had joined.

The state of shock frequently leads to various forms of nervous disorder. Delirious tremors, otherwise aphoristically known as D-I's, is a possible condition by no means free from danger to life. It is usually characterized by twirling deliriums of distinct attacks and accompanied by emaciation, sleeplessness and mental activity. The condition may be related to one who might be described by this clinical term—a moderate drinker—the manifestation of an accident.

A more permanent form of insanity is also attributable to chronic alcoholism and its deferred action. An interesting investigation made by the F. Mann, in a number of shell shock cases and a number of cases of traumatic stress, appears to show that cases of alcoholism was less common in the former than the latter. When the inquiry was pursued farther, however, it was found in regards parental alcoholism that the relation was reversed.

There can be no doubt that alcohol immediately and acts as a poison to the body generally and to the nervous system in particular, causing degeneration of mind and morals. It is our duty then to be aware of this and by precept and example to combat its evil influence in the future.

TOBACCO POISONING

By GEORGE LORENTZEN, M. D., FORD, N. J., U. S.

However, the tolerance of tobacco which the majority of mankind appear to enjoy, there is a considerable amount of ill health due to excessive smoking nowadays.

Since kind many brands contend it may not be out of place to state the fact that nicotine is one of the most rapid and powerful poisons known, and there is no doubt that it is the active ingredient in tobacco smoke. True pyrotoxic bodies and other complex bodies are present in smoke and it may well be that carbon monoxide accounts for some of the results of over smoking, yet on the whole both the good and the bad effects of tobacco smoking can be confidently attributed to nicotine. The amount of nicotine in tobacco varies from 3 to 8 per cent according to the particular kind of leaf, and while half the amount of the alkaloid is destroyed by combustion, the other half per cent can be found in the smoke. Once absorbed nicotine is excreted chiefly in the same, but there is a tendency for it to act as a cumulative poison. With regard to its action, nicotine is essentially a nerve poison for, after a preliminary stimulation, the ganglionic apparatus is paralyzed by it. This action appears to be relatively applied to the parasympathetic nerve, in greater proportion than to other nerves.

The clinical symptoms of tobacco poisoning are well known. There is

the third (24-26) is a time the first attack in which muscular weakness, gastro-intestinal discomforts and collapse combine to produce a condition which should still remain over an acute course sufficiently acute, while, finally, the last (27-28) indicates desire to live. The second is a stage, coming first, up with poisoning is due to depression of the motor nerves but without loss of up to several days to render painful manipulations, even—the reduction of dislocations, possible—the drug being retained till the last of a relapse occurs.

Changes in temperature is chiefly mentioned in the textbooks under the headings of spinal rigidity and interconvulsions but these are well established conditions in which the sensitive agency of toxins is not likely to be restricted and it is to some more vague symptoms that attention is best called.

I have mentioned that insolation produces a depression of the organs and in consequence not only the pulse weakened and the vaso-motor mechanism available in contracting. The heart without rapid relaxation becomes congested and thus, unable to stimulate by a physical or psychic. This vaso-motor weakness with its resulting irregular blood supply to the brain and other organs, is responsible for no small amount of all that and shows itself on the mental side in the form of wandering and depression and on the physical in shivering of limbs as weakness, giddiness and palpitation. A determination to arise in the morning is another odd result of over working, and the feeling is continued into the day as a shortage of energy which gradually wears off as the evening of insolation is marked by the broken bodily mechanism. It once well be wondered if our ancestors would have been as fond of "morning and evening" in the early morning if their post-prandial part of the night had been accompanied by the preceding symptoms of insolation.

Some attention has been devoted of late to a condition which includes symptoms of irritability of the heart, inflammatory pain and vascular stasis and which has been given the name of vasoplegia. I have not yet seen it suggested that insolation is the cause of these symptoms though I suspect that this is more likely than that a new disease has been discovered.

A lady young, who cannot come to me some days ago complaining that he thought he had been wrong because what he wanted was his bathroom, it might instead of getting there and going to sleep he was cold and felt he best leaving quickly. This is not an uncommon history than the heart can be felt as even heart beating as lying down and in the absence of any signs of disease due to overworking the person being that the rapid depression caused by the drug is brought into evidence when no time, hence the change, even to vasoplegia might conditions is called for. It is a rule no abnormal physical signs are found in these cases, but a final determination should should interest the surgeon that insolation is a fact in itself.

"I was not aware it was the result of overworking," I had said. "I had only moderate exertion and was never so tired as to sleep through the night disturbed or feel any effect in the morning. It was the first time, so far as my waking cough the pneumonitis was concerned. I have seen a case in which the pain was in the lungs, there was no local cause for it and moreover it was not due to the direct irritation of tubercle nuclei for it was most often present in the interval between working. I attributed it to cerebral pain from irritation of the vagus nerve and it ceased when smoking was given up."

That overworking was more intermediate in connection with other cases by bringing about various changes in the inner and middle walls of the arteries is generally admitted, but it is not so well recognized that a temporary functional hypertension can be produced by excessive working. Such a case came under my notice in the person of a dockyard official, 26 years of age, who found himself wandering about the bottom of a dry dock without knowing how he had got there. He had some evidence of arteriosclerosis and when his blood pressure was found to be 160 mm. Hg the diagnosis seemed clear, but when the blood pressure was taken a fortnight later it was only 120 mm. Hg and there it remained. This rapid drop was too striking to be the result of treatment in a case of organic hypertension, for one knows how difficult it can be to bring this about, and on this case no medicine was given. In my opinion this was a case of temporary functional hypertension due to excessive working.

As might be expected the gastric branches of the pneumonitis do not run up an ordinary pneumonia. Many people will tell you that smoking gives them indigestion; they are generally "all nervous when smoking, the quinine in their coffee and so cause gastric irritation. But there are other cases in which the gastric effect is a referred one due to vagal irritation as in the hypogastrium mentioned above. A short vagus nerve reflex may come in line with the ready-made diagnosis of gastritis. His illness was gastric for he had been so long in the hospital and on the last morning had had his appetite restored. I found no abnormal physical signs in the abdomen—except the epigastrium was—his bowels were rather movable and he was pale and "waxy," though seriously enough the general state of his system did not suggest a long history of gastritis. I suggested tobacco poisoning and enquiry elicited the information that the patient was a heavy smoker. I gave him a simple gastric colicative of which I have no doubt he had had a quantity hitherto and told him to leave all tobacco. The man was very anxious to get better so his nerves in subordination was being propitiated by his illness and consequently he turned out my instructions faithfully with the result that within a week or so he was quite better and had no more trouble during the ensuing six months, when which I lost sight of him. It may be suggested that this gastritis was due to local irritation from overworked muscles, but the pain was only vaguely related to the taking of food and came and went rather inconspicuously, so that I prefer to

amount from 100 mgm. to 1000 mgm. of pure procaine (Novocain) and in 10 minutes from 1000 to 1500 per cent.

The *Stomatococcus* caused by acute indurative leucostomatosis manifest a line to the ganglions of the salivary glands—but in great numbers, the stomatococcus goes way to depression of these centers and a depression of the mouth and lips results. There is a useful minor symptom for which to enquire when stomatococcus is suspected to be the cause of the patient's trouble.

Perhaps these short notes may help to keep tobacco poisoning before the mind when confronted with symptoms of vague ill health on which general signs were absent, more especially so if the symptoms complained of are referred to the area of distribution of the parasympathetic nerve. I am writing it all the more necessary in view of a recent case reported in the *British Medical Journal* of September 24, 1929 by H. L. L. Davies, M.D., in which a similar effect was found to be a well known and popular brand of the cheaper type in the preparation of one drink in the name of tobacco.

I have purposely refrained from mentioning the symptoms mentioned when dealing with overdosing, for undoubted tobacco cases and of course, more truly than of tobacco can it be said that one man's food is another man's poison. The greatest amount admitted by any of my patients was, one ounce per day and in the case of cigarette duty is only per day though in that latter case the only symptoms were those of phobias from which the man was supposed to be suffering, but he got quite better.

In suspected acute tobacco should be abstained for a time, and severely restricted. Fortunately the functional results of overdosing disappear when the poison is discontinued, so that the usual agency of tobacco in any affliction can be easily ascertained, though the difficulty of giving up the habit and the resulting depression of our patients must be allowed for. Not all patients are so honest as one I treated at hospital who was suffering from vestibular neuritis and whose father the doctor of his sight or his tobacco finally chose the latter. When dealing with intelligent patients on whom one wants to collect data tobacco consumption is a matter not to hint them to a given amount but to tell them to ask themselves as their hand goes to the pouch or case. Do I really want to smoke just now?

In conclusion it is interesting to note that no explanation of the pleasing effects of tobacco has ever gained general acceptance. Some usually non-scientific men (the poet? kind) like Lewis Henson thought that the regularity of pulling a pipe tobacco a rhythm in the respiration which reflected in other organs gave a sense of calm. Perhaps was the ultimate result of nervous poisoning is to paralyze the nerve centers the early effects of such doses is to cause a gentle and pleasurable stimulation of these centers to again possibly the muscular relaxations induced by the drug.

contributing to the small amount of expense. On no let the sailor ever remember that it is not possible that there might be some instances where a child dies when the small child is not yet connected to the fund of provision now existing from the Government that was to be done in the same—likely comfort, etc., research, and to be done."

THE NAVAL MEDICAL COMPASSIONATE FUND

We earnestly desire to call the serious attention of our readers to the value of subscribing to the above Fund now and in the future. It is what follows it will appear to all serious thinkers of the future and its results and we hope also to the present Reader, that this fund is a genuine form of investment and a sound business scheme.

In these days of high cost of living and education it behooves us all to do everything in our power while we are able to provide for our dependents after death. It is well known to most of us that many and more of us unbeknownst to the death of the loved ones occur where the men and young children are left to face the world with only the small *Admiralty* pension to keep them from poverty after having lived probably very comfortably on the husband's service pay. The sudden drop from about a £1,000 to £100 a year must have been as a shock to some sailors of Naval medical officers in the past and will happen again and again in the future. They may well say, "What shall I do now, and what with all their need that their husbands had subscribed to some fund which would support their orphaned persons. They asked to have the Naval Medical Compassionate Fund come in. There are very few Naval medical officers who have been able to provide for their widows and children unless they have been blessed with private means. The subscription to the Fund is only one penny a year, and the subscribers must be in the active list of medical officers of the Royal Navy but may continue as subscribers after being placed on the retired or reserved list, or after resignation of commission. Consider now carefully, what this tiny penny truly small amount of £1.10 yearly subscribed to this Fund may mean to your dependents and also to the comfort of your own mind as securing something even to the persons you may or may not have made for your widow and children. Supposing you have made only one such subscription and your death occurs the next year, this small amount may enable your dependents according to their circumstances, to a grant of £100 up to £400 possibly more and continued your after you as long as necessitous circumstances exist—no more percentage for your widow of £1.10. Even if you live for many years and continue your annual subscription of £1.10, the percentage rises to £1 and may more than any other insurance or endowment. The amount of pension capital you would have to pay by to reach

the sum of about a year for life is very large—in fact an ordinal ¹ *fortune*—estimated at £12,000.

To those in whose duty and pleasure it has fallen to give medical information this I and my have many treasures to deal with, when parents and children are laid with almost obsessions with no means to sustain a level head exposed to them, hard days and nights with perhaps several months to tender them.

Some of the applicants, made by these unfortunate people have had to be refused only because the husband or the father had not been a member for 12 months for a grant from the Fund, which is regulated by Act of Parliament, an applicant must, either be the immediate widow or nephew or a female, whichever provided that in the case of the latter—divorced—her widowship was not more than nine months in arrears.

Further, and this is important, the need of the case determines the amount of the grant so that the dependants of the sick, shortly afterwards stand to lose as much as do those of the sick and dying, on the basis of the Fund.

To those who read this and ponder over it, it would be clear that it is open duty to their dependants to at once cord themselves and so feel sure that they will be all the happier in so doing, and that they have done something although it may appear trivial at the time which will, in all ways and kinds, be to their dependants.

Our advice is therefore, readers, be good at once—if you have not already done so. You cannot now do it in a year when you consider how often such a sum is spent on a medical object. Furthermore as to the payment of subscriptions (note, *backers'* orders, &c.) can be obtained from the Working Secretary to the Naval Medical Department, presently 1, IF 2, and payments should be made by banker's order at cheque, preferably the latter.

So far the appeal has been made to those who with their dependants to benefit by the Fund, but really we can also appeal to those who have no need to use the Fund and the appeal is then to their charity, for by this moderate subscription (as even larger donations would be welcome) the capital of the Fund can be added to and so help those whose circumstances are necessities.

To those of us who have not considered the subject and who are ignorant of the nature and history of the Fund the following brief summary is given—

RECORD OF THE NAVAL MEDICAL COMPENSATION FUND

The Naval Medical Supplemental Fund Society was established by Order in Council of August 15, 1817 for the relief of the widows of medical officers in the Royal Navy. The Fund so established was abolished in 1824 in pursuance of the Naval Medical Supplemental Fund Society Winding-up Act, except in regard to Compensation Branch which

voluntary to exist under the name of the Naval Medical Supplemental Fund and the Court of Directors met under the Presidency of the Secretary of the Admiralty to distribute the interest on the capital £100,000 on 2½ per cent. Consols for the benefit of the recipients of deceased subscriptions.

Up to that subscription was compulsory for all naval medical officers but now they voluntarily pay new subscriptions were accepted until 1914 when after the regulations and table of the Fund had been revised by Order in Council the present rate of annual subscriptions (one guinea) was introduced.

In the meantime, the danger of the exhaustion of the Fund through the decrease of its few recipients stimulated the Treasury and other interested medical officers to take action for its revival.

In 1912, the Royal Naval Medical Club applied to be allowed to take over the management of the Fund, with a view to extending the scope of the Fund so that its benefits might be made applicable to the widows as well as to the recipients of the members of that Club who at their death had been subscribers to the proposed new Fund.

There is no doubt that this timely action by the members of the Royal Naval Medical Club went far to revive and popularise the Fund and within the Act of Parliament governing the administration of the Fund had been repealed, though the management was not transferred to the Royal Naval Medical Club yet the influence of the Club has its recognition in the fact that the benefits of the Fund have been extended to the widows of all subscribers deceased, present or future, and also in the wording of Article II of the revised regulations approved by Order in Council dated July 29, 1915 and still in force at the present date.—

* Article III. The Treasury Secretary shall be the officer for the time being holding the office of Treasury Secretary of the Royal Naval Medical Club.

Consistently with the terms of the order referred to above, the title of the Fund was changed to that by which it is now known—“The Naval Medical Compensations Fund.”

In the January 1918 number of this Journal it was predicted that the Compensations Fund under its amended and increasingly maintained, which form the basis of a sound and popular insurance scheme. There is no question of its maintenance but it might well become more popular amongst the medical officers now serving on the Active List of the Royal Navy.

The Fund at present (October, 1920) consists of £100,000 (the original Fund under Clause I of the Order in Council dated July 29, 1915), and in addition the following capital, derived from accumulated interest and subscriptions, has been revealed—£1,800 3½ per cent. Consols (including Stock), £400 5 per cent. War Bonds, 1920 and £100 5 per cent. War Loan Stock, 1920—1917.

The management of the Fund is vested in a President (the Medical Director General of the Navy) who is a trustee, two other trustees (the

Secretary of the Assembly and the Director of General Hospital, are Division officers of assembly from the subordinate to the Board on Honorary Treasurer (the Deputy Medical Director) of the House; and an Honorary Secretary (in effect for the time being holding the office of Honorary Secretary to the Board) (Mr. Richard J. J. J.).

The Court of Directors is constituted only once a year, in January-April, July and October, to consider the claims of applicants for new awards and deal with such other business as may arise.

Source: Office of the Inspector for the Corporation and its agents.
 By the Hon. the Member for Cornwall, 1908.

Received 1 May 2004 and June 10, 2004

(5) The management of a fund shall be vested in a President who shall also be Director and other Directors as Directors or Honorary Directors and as Honorary Secretaries. There may only be one or more of them in all the Directorates constituted or to be constituted by the Commission or a Council of Directors.

(4) The present building, the office on the main floor, of Medical Division General of the Army shall be the Principal and a Treasurer of the Society. The present building, the office for the management of business of the University, and a Treasurer of the University of the University shall be Treasurer of the Society.

(d) Notwithstanding the provisions of Article 1, the state of Delaware of this Panel may meet and be held as well be moved out of the County of Delaware and State of Delaware and subject to the approval of the Board of Directors of the Company of the County of Delaware.

[illegible][illegible]

By holding to the payment of all proper writings the Court of Decrees shall in each instance pay, commencing on the 1st December and at intervals to be held at its request of January, April, July and October, the sums owing the eligible applicants to the trustees to such of the society, which shall during each year be selected in regard of manner from the Fund and in respect of the several applications (including arrears) to the said Court shall determine to be entitled for immediate payment to each applicant.

¹ In addition to the use of 100,000 lbs. following capital stock has been authorized, interest and dividends have been restricted to 10% per year. Dividends increased March 1, 1984 to 4% per year. Retained Earnings 1983 and 1984-4 per year. New Loan funds, 1983-1984, 1985-1986, 1987-1988, 1989-1990, 1991-1992, 1993-1994, 1995-1996, 1997-1998, 1999-2000, 2001-2002, 2003-2004, 2005-2006, 2007-2008, 2009-2010, 2011-2012, 2013-2014, 2015-2016, 2017-2018, 2019-2020, 2021-2022, 2023-2024, 2025-2026, 2027-2028, 2029-2030, 2031-2032, 2033-2034, 2035-2036, 2037-2038, 2039-2040, 2041-2042, 2043-2044, 2045-2046, 2047-2048, 2049-2050, 2051-2052, 2053-2054, 2055-2056, 2057-2058, 2059-2060, 2061-2062, 2063-2064, 2065-2066, 2067-2068, 2069-2070, 2071-2072, 2073-2074, 2075-2076, 2077-2078, 2079-2080, 2081-2082, 2083-2084, 2085-2086, 2087-2088, 2089-2090, 2091-2092, 2093-2094, 2095-2096, 2097-2098, 2099-2100, 2101-2102, 2103-2104, 2105-2106, 2107-2108, 2109-2110, 2111-2112, 2113-2114, 2115-2116, 2117-2118, 2119-2120, 2121-2122, 2123-2124, 2125-2126, 2127-2128, 2129-2130, 2131-2132, 2133-2134, 2135-2136, 2137-2138, 2139-2140, 2141-2142, 2143-2144, 2145-2146, 2147-2148, 2149-2150, 2151-2152, 2153-2154, 2155-2156, 2157-2158, 2159-2160, 2161-2162, 2163-2164, 2165-2166, 2167-2168, 2169-2170, 2171-2172, 2173-2174, 2175-2176, 2177-2178, 2179-2180, 2181-2182, 2183-2184, 2185-2186, 2187-2188, 2189-2190, 2191-2192, 2193-2194, 2195-2196, 2197-2198, 2199-2200, 2201-2202, 2203-2204, 2205-2206, 2207-2208, 2209-2210, 2211-2212, 2213-2214, 2215-2216, 2217-2218, 2219-2220, 2221-2222, 2223-2224, 2225-2226, 2227-2228, 2229-2230, 2231-2232, 2233-2234, 2235-2236, 2237-2238, 2239-2240, 2241-2242, 2243-2244, 2245-2246, 2247-2248, 2249-2250, 2251-2252, 2253-2254, 2255-2256, 2257-2258, 2259-2260, 2261-2262, 2263-2264, 2265-2266, 2267-2268, 2269-2270, 2271-2272, 2273-2274, 2275-2276, 2277-2278, 2279-2280, 2281-2282, 2283-2284, 2285-2286, 2287-2288, 2289-2290, 2291-2292, 2293-2294, 2295-2296, 2297-2298, 2299-2300, 2301-2302, 2303-2304, 2305-2306, 2307-2308, 2309-2310, 2311-2312, 2313-2314, 2315-2316, 2317-2318, 2319-2320, 2321-2322, 2323-2324, 2325-2326, 2327-2328, 2329-2330, 2331-2332, 2333-2334, 2335-2336, 2337-2338, 2339-2340, 2341-2342, 2343-2344, 2345-2346, 2347-2348, 2349-2350, 2351-2352, 2353-2354, 2355-2356, 2357-2358, 2359-2360, 2361-2362, 2363-2364, 2365-2366, 2367-2368, 2369-2370, 2371-2372, 2373-2374, 2375-2376, 2377-2378, 2379-2380, 2381-2382, 2383-2384, 2385-2386, 2387-2388, 2389-2390, 2391-2392, 2393-2394, 2395-2396, 2397-2398, 2399-2400, 2401-2402, 2403-2404, 2405-2406, 2407-2408, 2409-2410, 2411-2412, 2413-2414, 2415-2416, 2417-2418, 2419-2420, 2421-2422, 2423-2424, 2425-2426, 2427-2428, 2429-2430, 2431-2432, 2433-2434, 2435-2436, 2437-2438, 2439-2440, 2441-2442, 2443-2444, 2445-2446, 2447-2448, 2449-2450, 2451-2452, 2453-2454, 2455-2456, 2457-2458, 2459-2460, 2461-2462, 2463-2464, 2465-2466, 2467-2468, 2469-2470, 2471-2472, 2473-2474, 2475-2476, 2477-2478, 2479-2480, 2481-2482, 2483-2484, 2485-2486, 2487-2488, 2489-2490, 2491-2492, 2493-2494, 2495-2496, 2497-2498, 2499-2500, 2501-2502, 2503-2504, 2505-2506, 2507-2508, 2509-2510, 2511-2512, 2513-2514, 2515-2516, 2517-2518, 2519-2520, 2521-2522, 2523-2524, 2525-2526, 2527-2528, 2529-2530, 2531-2532, 2533-2534, 2535-2536, 2537-2538, 2539-2540, 2541-2542, 2543-2544, 2545-2546, 2547-2548, 2549-2550, 2551-2552, 2553-2554, 2555-2556, 2557-2558, 2559-2560, 2561-2562, 2563-2564, 2565-2566, 2567-2568, 2569-2570, 2571-2572, 2573-2574, 2575-2576, 2577-2578, 2579-2580, 2581-2582, 2583-2584, 2585-2586, 2587-2588, 2589-2590, 2591-2592, 2593-2594, 2595-2596, 2597-2598, 2599-2600, 2601-2602, 2603-2604, 2605-2606, 2607-2608, 2609-2610, 2611-2612, 2613-2614, 2615-2616, 2617-2618, 2619-2620, 2621-2622, 2623-2624, 2625-2626, 2627-2628, 2629-2630, 2631-2632, 2633-2634, 2635-2636, 2637-2638, 2639-2640, 2641-2642, 2643-2644, 2645-2646, 2647-2648, 2649-2650, 2651-2652, 2653-2654, 2655-2656, 2657-2658, 2659-2660, 2661-2662, 2663-2664, 2665-2666, 2667-2668, 2669-2670, 2671-2672, 2673-2674, 2675-2676, 2677-2678, 2679-2680, 2681-2682, 2683-2684, 2685-2686, 2687-2688, 2689-2690, 2691-2692, 2693-2694, 2695-2696, 2697-2698, 2699-2700, 2701-2702, 2703-2704, 2705-2706, 2707-2708, 2709-2710, 27

[illegible]

Frank already said that his membership application process was the only one that was not a "one size fits all" process. They had to be selected by members. I don't mind at all that the two others are more formal. It is still a formal vote part of the law of the land from what I've experienced. The 100,000% per cent demagogued twice by a national officer, not even a nationalist, is more than I

[illegible]

(b) The α -d-glucosidase shall be lacking, and the large peptide amount on the hydrolysis of the sample shall show. (Transfer of the label)

(7) The following: I am the speaker of the following as a speaker of a language, shall be suitable for continuous use as a boundary of the world.

to the extent that the use of all persons who are not the authors of the work is not necessary for the purpose of the work.

(4) "The explosion and a door" of such a case as (3) breaches human satisfaction in the final provided that if the State of their death their satisfaction were not more than one month or more.

(D) The Housing Trust was cited in the letter by the same long building, the City of Detroit, through the Council of the State of Michigan of the City.

(21) The Honorary Secretary shall be the officer for the time being holding the office of Honorary Secretary of the Royal Navy Medical Club. He shall be elected from the number of officers but the sum of their pounds per annum for clerical assistance, together with his travelling expenses for "Secretary," postage, office and station.

(12) The accounts of the Board shall continue to be audited annually as at and the balance sheet prepared for the termination of the fiscal of December, of the January meeting on each year. It shall be made accessible to all members of the board to vote at the Annual Meeting for the election of Directors.



Case 1 - Type 1. Plot of p vs t .



Case 2 - Type 1. Plot of p vs t .



Case 3 - Type 1. Plot of p vs t .



Case 4 - Type 1. Plot of p vs t .



Case 5 - Type 1. Plot of p vs t .

TABLE VII

Temperature	Time	1 day		2 days		Temperature
		1	2	1	2	
Maximum	100°	90	71	90	71	100°
Minimum	100°	90	71	90	71	100°
Average		91	72	91	72	

Two experiments were conducted in the laboratory continuously for 10 days (Fig. 1), which the results obtained are presented in the table. On the fifth day, when the maximum temperature was 100° and the minimum temperature was 71° (the average temperature was 85.5°), the insects were transferred to a new temperature regime, 100° and 71° (the average temperature was 85.5°).

An example of the percentage of survival of the insects is shown in the table.

TABLE VIII



Example of the effect of percentage of survival

10° maximum temperature was reached in 31 per cent of cases, 100° day, 71° per cent, on the second day, 10 per cent on the third day, 1 per cent on the fourth day, maximum pulse rates (the 100° temperature) 10 per cent on the first day, 31 per cent on second day, 71° per cent on the third day and 1 per cent on fourth day. The degree of maximum temperature and of maximum pulse rate is shown in the next table —

TABLE VIII

Maximum temperature	Percentage survival	Maximum pulse rate	Percentage survival
100° and over	0	90 and over	7
100°	10	90	36
100°	71	90	31
100°	90	100	29
100	0	110	0
100	1	120	0

It would be interesting to know how much of the higher than 100°F (37.8°C) burning is due to the polymerization of the oil with cyclic elements in the film, polymerization suggested would give a more uniform curve.



Figure 8—Single thermocouple.



Figure 9—Multiple thermocouple.



Figure 10—Late thermocouple curves with an isopleth.

RECONSTRUCTION OF TEMPERATURES

Goodman [17], writing of sand ϕ_2 is in an Orlon bag: "Commonly the temperature chart will show a sharp rise of temperature about three or four days after the return to normal. Such ripples, however, are not uncommon, my figures only show 1 percent of such cases." In this context of interest has been considered preferable to call any rise of temperature, after the original

fall is normal for twenty-four hours a week, whereas rather than a relapse, as it is usually accompanied by any clinical signs or symptoms of the original disease. A slight recrudescence occurring on the day following the return to normal was not uncommon: it was present in 15 per cent of cases and in a case only reached from 98.6° to 100° F., in 2 per cent it was higher from 99° to 101° F. Sometimes this recrudescence extended over a period of two or three days (4 per cent of cases). In 27 per cent of cases there was a single rise on one day only, after normal was reached. The getting up of the patient as soon as the temperature was normal was probably responsible for many of these secondary rises.

Very rarely a recrudescence would follow in the form of a two or three day rise after the temperature had been normal for several days. Cases were taken as the proportion of these figures to exclude any other disease as a cause for the recrudescence.

The accompanying Charts 8, 9 and 10 show examples of single, multiple and late recrudescences.

The intervals between some of these cases and deeper ones is sufficient that there would be satisfactory for specimens, even of dengue, but as no case was any recurrence of pain or rash observed, slight headache was rarely present.

Second Attacks.—The percentage in which a second attack may be expected is given by Hiss [6] as 5 to 10 per cent, by Graham [7] 4 per cent. The latter adds: "Very cases of third attacks have been noted in the same epidemic, though these are rare."

According to Henshaw [8] "One attack does not appear to render absolute resistance against the disease, as a second or even a third in consecutive years has been noted in a few cases. In a regional percentage two attacks in one year have been noted."

In this series of 157 cases fifteen were seen previously as two attacks, and in eleven other cases a definite history of a previous attack during the same season was obtained: 14.6 per cent. definitely, and an additional 4 per cent. probably, had a second attack during the same epidemic. In all about 19 per cent.

In the fifteen cases seen by myself with two attacks the duration of the previous was the same in each instance in two cases, in four cases it was shorter and in five cases longer. The fall of temperature in the second attack was usually more drastic (Types A and B) rather than the initial (Type C).

In two out of the fifteen cases the interval between attacks was three weeks or rather, and in five cases it was six to eight weeks. I did not see previously cases of these attacks in the same period, but I was unable to remember that such had occurred in the previous season. Cases were also seen in which an attack had occurred in 1935.

It would probably be correct to state that immunity is confined to the extent of 50 per cent. for the same season, and that second attacks may be expected in 10 per cent. of cases.

Chart 11 shows the first and second febrile periods following onset of these results.

CHART 11. (First and second febrile periods.)

Complete resolution of the febrile period (Chart 11) followed fairly promptly. Even though it is the danger to the patient's life, the temperature began to decrease and weakness to subside on the second day of the febrile period. In some epidemics in this patient case the accompanying rigidity of the body generally was very noticeable, even in cases with high pyrexia, but most of the patients were quite fit for duty on seven days. In a few there was residual stiffness and weakness of the legs for a few days and in a few cases developed neurotic symptoms. Vomiting on the first day on which the patient was up was common.

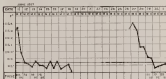


Chart 11. Febrile periods with four days interval. (Second febrile period.)

DIAGNOSIS

The chief diseases with which phlebotomus fever is likely to be confused are malaria, dengue, influenza, sinusitis, and its acute infectious yellow fever. All have no toxic onset with rapid rise of temperature, rapid relief headache and frontal pain, and conjunctivitis of the eyes.

Malaria must be excluded in any case with high temperature by blood examination and no easily palpable and tender spleen. The rapid fall in normal and constant temperature ruled in this infection.

Dengue occurs in more 'epidemic' epidemics and the final rise of temperature is associated with recurrent pain and frequently a malodorous sweat.

Influenza—The etiological symptoms would rapidly exclude any mistake in diagnosis. The tongue is brownish and covered with grey or brownish fur in influenza; it is red-dry fever there is white fur and no marked influence of the pyrexial heat is much more marked in malodorous sweat.

Some 10-15% is destroyed by the very high temperature and tendency to oxidize, *gemmae* being by the presence of albumenous, whose composition and heat of combustion, ignition point and temperature.

TREATMENT

The disease and any definite course and drug treatment will have little effect upon it. Aspirin, quinine, sodium orthophosphate, phormicin and a hypodermic needles were used on groups of these mice and had a slight effect as could be ascertained upon the duration of the pyrexia. Aspirin seemed to relieve the symptoms and lower the temperature temporarily, but this and other drug and quinine in less degree did the same. Heat bath compresses frequently applied to the head were found useful in that it the hypercaloric and other related pain. Aspirin was a relief but due to these drugs are necessary. The patients can easily be killed and the temperature makes normal in 24 hours. The disease is left in its decline is usually very rapid and the patient may sometimes survive for some 48 hours after the temperature has fallen.

THE LATE STAGE, PNEUMONIA IN WHITE MICE

It is much more produced by the late of the used by a *gemmae* form. A definite pneumonia is not often seen by the rounded up very thick round *gemmae* spot marks the site of the late. The papules may vary slightly in size and are usually of orange pink or a dull red in color. The white mice with the papules surviving is not uncommon. In a few cases these white mice found with a definite erythematous area on the thorax, papules or mounds. Unusual forms of the rash are not uncommon and in some patients a considerable amount of urticaria is produced. Usually in very susceptible patients considerable necrosis follows the late and a definite secondary eruption is produced. The reaction may be so large as to be dangerous.

The late produces a good deal of urticaria, and secondary lesions are frequently produced by scratching the papules or mounds, leading to an appearance more like that of urticaria on the forearm and legs. Secondary erythematous infection occasionally follows. The rash may persist for days with a considerable degree of urticaria. The chief treatment are the pain normally reported to the patient lies in bed, ice, the extreme weakness of the limbs, urticaria and discomfort, more nearly the lower half of the upper arm the degree of the late, urticaria and legs. The face, neck, chest and abdomen are occasionally bitten, but much less frequently. In a very few cases even to the arms in front and inside. In others only a few papules but the majority showed many lesions, especially of the forearm. The forearm shows a few lesions in a rule. This is probably due to the normal attitude of sleep being a flexed one thus protecting them, urticaria from attack.

(Fever) 1.4.12. The cage is from another camp, and slept all the night in the house. On the morning of the fourth day observed in house. *Phlebotomus*, etc. All the other patients had sometimes small flies. They remained in cages later, but the mostly have clearly a dose before leaving, at the presence of any person started out as does the mosquito. A very faint note may sometimes be heard if the patient close to one's ear. The sudden sharp sting, when the *phlebotomus* bites, is sufficient to wake one from sound sleep.

After the first case, no account of the type, and fly substance was suspected. The symptoms became greater when the hatched members at the house, became troubled. A small tent made for *phlebotomus* in the house, only later (7 days) being searched for at the same time, in the walls. It is the white on patients' waste and under closely recorded case, past later. No other larvae were found, but *phlebotomus* were found in the house and later made the symptoms of an officer who had been severely bitten and developed the fever. There was night and proved to be *P. papatasi*. Although specimens had been sent to the Royal Naval College Greenwich, during the tropical course, after entry I was not certain that this was the genus and fly, but the diagnosis was confirmed by Colonel Gurney, R.A.M.C., Egyptian Medical Service, and they were later examined in company with Dr. A. De Lisle, attached to the French Army Medical Service.

The following prophylactic measures were taken:—

(1) The sleeping place of men servants and natives was changed from the hall on the ground floor to the lobby on the next floor higher up.

(2) A space of ground alongside the house, but not part of the grounds contained old rubbish refuse and fallen masonry, and was thought to be the probable breeding place and habitat of the fly. This was cleared and covered with lime. Quinine was applied for a week in spray or wash down all doors and windows, but was not immediately available.

After these measures were taken no fresh case occurred, but this was probably in part due to the fact that a slight change in the weather followed and the temperature dropped below 70° F. in the evening, which is unfavorable to the continued presence of *phlebotomus*. The weather during June and early July was probably too hot and dry for the house to breed out.

As was gathered subsequently from notes published in the British Medical Journal and given by me in September prophylactic measure No. 1, there was probably more effective to the circumstances than was hoped for at the time. In the place where the men previously slept they were exposed to the flies from the rubble, etc., which was only a few yards away across a screen by way, and level with the open windows of the hall, so that the flies entered each evening probably attracted here by the light made. As *phlebotomus* does not tend to enter much in light, there was probably still not much in ground lobby where the men afterwards slept. Although

they remained in cages of about seven during the day, the others in a box brought to meet them, and there was always one free dragonfly there.

The case which occurred on August 9, 1915, was that of a shop-keeper and gentleman, aged 45. This case occurred at another building—an old castle. His office and sleep were as a part of the castle suitable for the fly, that is, made one of the old stone towers. This building was not used by the war.

The flies were of a dull pale yellow or sand colour. Two dots of black pigment at the eyes were conspicuous when the fly was caught. The body was covered in dark or brownishish scales. The wings were long and narrow and with a magnifying glass were seen to have long fine hairs along their edges. The wings at first were always carried pointed back, upwards, and outwards from the body, diverging from each other. When an attempt was made to capture a fly, it did not fly forward, but started rapidly by seeming to jump off at a right angle, slighting eyes about six or eight inches away as a straight line to right or left.

GENERAL DESCRIPTION OF THE CASE

Incubation.—From the case of the parents (R.M. & L.) and from our observation of the onset of onset after first noticing the bites, this appears to have been about three days.

Symptoms.—The onset is sudden. The patient's face is flushed and eyes puff and squint as if he had been drinking heavily. His complaints of discomfort, nausea, headache, and pains, generally in the back and region of the hypogastrium. He is "tired" and looks very ill. In two of the cases there was nausea and slight vomiting at the onset. The temperature was generally about 101° F. at the onset, but usually reached 102° F. or more within ten hours. On the second day it was usually about 101°. In three of the cases it ceased to mount on the evening of the second day. In the others it did not reach normal until the evening of the third day or later. After becoming normal, in several cases it rose next day to 100° or 101° F. was noted, the temperature afterwards standing at normal.

During the night of the first day, and subsequently, pain in the back, waist region and joints was noticed, and also pain across the eyes. The epistaxis was rather tender to pressure. The patient slept little and did not vomit. By the second day the tongue was covered with a white fur except at the tip, and the patient had no appetite. One patient had slight diarrhoea, but the others were constipated. The pulse rate was never more than slightly in any of the cases, even when fever was high. In one case there was slight sore throat, and in another slight stupor and delirium on the third night.

After-effects.—A general feeling of fatigue and lack of energy, mental and bodily, lasted for some time. All cases showed this in some degree, but in three it was much less than in the others, those three cases were the day cases. The others remained sick for days for a week or longer. The

Case No.	Age	Time onset (months prior to onset)	Symptoms
(10) Female	71	Acute	Exaggeratedly developed lower limb palsy and ataxia in pelvic region; lower limb palsy marked upper with proprio- ceptive loss; gait ataxic
(11) Female	42		Typical case Lower limb loss, ataxia, proprio- ceptive loss

CLINICAL HISTORY (THE CASES WITH AN UNUSUAL HISTORY)

Case No. 1, subject 11, Dartmouth Prisoner No. 11. At the onset in October, 1942 he had slight loss of temperature, swelling of feet and numbness of legs and fingers, with loss of power and pain in the muscles of the legs. His knee jerks were then present. He was sent to the Cape Hospital where only an irregularity was noted. When admitted to Dartmouth in January, 1943 there was still numbness in the front of the legs, hyper-reflexia of the muscles, and his knee jerks were present. There was some irregularity of the heart. He was discharged to duty.

Case No. 3, private 22, Dartmouth. The same initial symptoms but the knee jerks were lost at onset. He was sent to the Cape Hospital. When readmitted to Dartmouth in January 1943 loss of sensation over legs and hyper-reflexia of muscles were still present, power, but no ataxia. The knee jerks were drawn-out but present and soon became normal and in two months he returned to duty.

Case No. 5, looking account 29, Dartmouth. The general symptoms at the onset in October 1941 were like those of the last case. The loss of proprioceptive ability of walking and marked numbness of legs, thighs and lower part of abdomen with rigid jerks were most marked and at the same time the knee jerks were increased. The case was noted at the Cape, and on discharge to Dartmouth he was found to be well recovered, but there were still hyper-reflexia of the calf muscles with numbness of the front of the legs and marked foot drop. Knee jerks were present. There was some hyper-reflexia and at the same time the knee reflexes had. There was no evidence of depression. He was discharged to duty.

Case No. 1 & R 22, Dartmouth. The onset took place in the December of 1941. The symptoms were similar to the last, but there were more marked upper limb symptoms. When admitted to Dartmouth the numbness, hyper-reflexia, and cardiac irregularity were still present and his knee jerks were normal. He was readmitted to Dartmouth.

Other Cases.

Case No. 6, private 20, Dartmouth. Onset like No. 3, with slight proprioceptive loss of power, rapid cardiac action and ataxia. There was loss of knee jerks, but there were no greater muscular symptoms. He went to the Cape and then to Dartmouth. The loss of sensation and power

very stiff pain at its attachment; the latter his post-operative post-drop and form of paralytic reflex; there was no weakness. This responded to the signs of peripheral neuritis remained.

Case No. 11, soldier St. Paul. The disease was contracted in the Persian Gulf in December 1915. There were numbness and hyperaesthesia of all extremities, right parietal. On admission in December 1916, on Thursday he was found to have loss of sensation below the knees with paresthesia and wasting of the legs. There was foot-drop on both sides. No numbness, hyperaesthesia. Blood-pressure 115. The reflexes were as first normal and then increased. He had two syncopeal attacks since admission. The case was a severe one, and he was sent to his own home considered as a case of lower spinal paralysis.

Case No. 7, engineer Lieutenant St. Delhomme. This officer had been employed in the Persian Gulf from September 1914 and had served on Mesopotamia from February 1915. In September of that year he was placed at Mesopotamia and stayed in both legs and in the fingers of both hands. There was oedema of the neck and legs and difficulty in walking. The left muscles were hyperaesthetic and the knee reflexes were absent. His diet was hard but he ate the same as that of the other officers. Fresh vegetables were supplied when possible.

The paresthesia of the legs increased and foot-drop and wrist drop were marked. These symptoms were progressive with wasting, and his pulse became very rapid. He was wheelchair. In November he began to improve while on a full anti-beriberi diet with plenty of fresh vegetables.

All three cases were given besides the ordinary diet but had had an electrolytic extract made as follows:—

Heart bone, 100 gram plus 750 c.c. of 50 per cent alcohol extracted for eight days in cold, then evaporated down giving 3.75 gram of electrolytic extract.

Heart cod-liver 100 gram plus 750 c.c. of 50 per cent alcohol extracted for eight days in cold as above giving 5.1 gram dry extract. Each was dissolved in 100 c.c. of absolute alcohol and 1 drachm was given in water every 2 days.

There is no doubt the correlation between these two cases and sleep beriberi. The latter was found among the Europeans especially in the Dutch East Indies and in Western Africa in a biological part but lived work in a hot climate, with continuous and poor diet very deficient in fresh vegetables, were the important factors. The continuance of the knee jerk during the whole course of the disease in some of the cases is notable but in some were spastic, gross and muscular haemorrhages found.

There is no doubt that the conditions under which the Europeans had lived for six months in the Persian Gulf had brought about a condition of low vitality which favoured the development of the special disease of malnutrition caused by the supply of food deficient in both antineuritic and vital anti-neuritic vitamins.

It is important to say, for completeness, very at least in most cases, that long to which it is (having the first Commission present) and that in some way the second the third commission the third four appeared to have informed very markedly the existence of the disease both in time and place. It is also a mistake, but that in those cases in which European were most affected, the natives suffered least, and vice versa.



It is showing evidence from the second to the third. (Dietrich.) The point is one of the question of the second Commission. Some factors of propagation of long to which.

With regard to the food supplied in the Persian Gulf it was a frequent error to think that the food was so good that they would not eat it. The potatoes were generally bad and the bread was poor, so that we must remember that not only was the food often not sufficient, but it was, as a very common rule, not sufficient, though perhaps not eaten.

There was no evidence of infection though many cases occurred simultaneously.

60. SCOUT ON BOARD THE RUSSIAN TRANSPORT ANISE.

By German Commission G. E. WOTTE, R.D. 1915.

In 1910 May, 1910, the transport ship was lying at Marmara, and took on board 415 German and Austrian prisoners and 100 Russian workmen. There were had been employed in building the northern system of

the Mammal Station. Food supplies had been very short and limited in variety. The men in jail, rising to all supplies having to be carried to the stations of fuel by sleds or dogs. Their food had contained almost entirely of dry bread with a small amount of tinned meat at long intervals. Fresh green food was not obtained.

Of the 1,000 men nearly everyone showed signs of scurvy and some were in a very advanced stage of the disease. The scurvy lesions were evidenced by swollen, swollen and bleeding gums, the muscles of many developing pain and with the teeth falling out in very large numbers.

The symptoms of these cases were very marked.

Swelling and pain of the feet were frequent and large numbers lost their toes and hemorrhages from the details.

The legs presented the most marked signs of scurvy, being marked with petechiae, red blotches and numerous hemorrhages extending over the whole area of the calf, or the back of the leg from the knee to the heel. In some hemorrhages had occurred in the knee joints and bleeding marks which caused lameness of the joint.

The lower legs and ankles were in many swollen and edematous, and of a mottled color.

Treatment.—All these cases came on board during a period of twenty-four hours. The men were put into second and third class cabins and the remaining in scurvy and in the hospital ward.

Corpses were chosen from the best and healthiest of them and put in charge of the various stations divided according to the ship's accommodation. The method of treatment and necessary medicine was explained to them through interpreters. Fitzpatrick's individual treatment was possible.

Several hours later some obtained from H. H. G. (Glenah) who came on deck from several large boats each morning. The patients and witnesses were permitted on deck previously and the very best men pulled out, and then the whole lot made to the port the boats and to take their death.

At first there was great difficulty in getting the men to go on deck; many could not stand up being too weak to walk, and it was eventually necessary to have them up with a party of our own men and selected Russians and Russian prisoners. If they had not been done many would have died in boats and cabins, being in an unhygienic state to even in their own quarters.

Food.—Larkin the writer was able to obtain a fairly large supply of meats, carrots and a few other vegetables and some brown rice. Treatment of the many other people, instead of all into the one community of supplying the best and most suitable food obtainable and in making the men spend at least half an hour on deck, even in the snow and blizzard which were then blowing. In the medical staff consisted of the writer and two red bath ranges with very great help from the other officers and petty officers of our own force, as clinical cases of men could be made.

Owing to the ship being stuck in an ice-field for two days and having to

patches can slip through a large part of the fire, our strategy to knockdown was much bigger than anticipated, so that these men were on board for nine days, instead of three.

The results mirrored exactly those both from earlier research and developed social-cognitive and cognitive models.

The change of load capacity in the winter is opposite the summer and the limit is 40 kg, worked on slippery surfaces in the mountains of those men that who would almost certainly have died winter a work under these harsh conditions of being, at the end of the voyage better able to get about on deck.

A very large number harvests, were permanently trapped from the *harvest* to the *low* range.

JOSE TEFILU, AND WILLIAM TAYLOR

Typical cases were presented in Florence during the autumn of 1944, and listed in the spring of 1947. It was later at Liverpool on November 11 that they were met.

Belonging here was also very common during these periods and in the same direction and also in the

It's very clear that various rules and personnel changes are managed to keep our three masters free of legal issues.

PLAT VII.—MILWAUKEE.

FBI - Bureau of Federal Investigation - "Fam. F.C.I.M.F. F.A.S.T.E.R. VENTURE B.O.D. C.T.B.G. R.N.

THE disease which might have been expected to appear at the Canal Zone during the war was not classed as such. In Egypt and South Africa there were very considerable amounts of stored tanks and empty landed there and both are dangerous areas. The concentration of large numbers of men in Egypt, Mesopotamia and South Africa, made it impossible that the method of infection and the means of protection should be ascertained. The League Union and V. G. Thompson were therefore sent out to the War Office, and as a result of their investigations it was shown that the disease required for its introduction from a small—*Arabis confinis*—common in the fresh water of Lower Egypt. The prohibition it is suggested by researchers that all canal water used for bathing, again with suspicion, well waters are carefully selected, storage for forty eight hours residue filtered under low flame danger in thick herbarium treatment, as previously some of the low frequency concern surveys for more than forty-eight hours and that sand filtration is suitable for protection of an infected water.

There were four cases of interest. The first was born in East London, South Africa, and served in the Merchant Navy. The subsequent in-

commencing in 1911 there was a history of passing blood at the end of menstruation which was first noticed three years before. The menses had been very infrequent but had given him very little trouble until quite lately. He now continued blood and painless and terminal spinal cramps were present continuing long enough which was easily seen freely swimming about on discharging the urine with water. X-rays showed no renal enlargement. He was treated with methylene blue 1 gr. daily for four days. This appeared to cause the death of the embolus, as none could be found after. Five days after the drug was stopped a second course was given as the active embolus was again found and this seemed to be effected. He was then given 50 grains of sodium salicylate and after six weeks treatment was discharged cured, at least for a time.

A second case arrived in the last Boer War and contracted leukemia at Pretoria. He had had no further trouble until early in 1914, but then, while on leave in the Orange Free symptoms became severe immediately he was evacuated to England and reached Greenwich in June. The case continued terminal spinal cramps with living embolus, pain and blood urine. Radiograms showed nothing. He was treated with galpi 1 gram, three capsules. After a month's treatment he had gained weight, the cramps were less and the urine showed no living embolus. After seven months he felt well and was discharged to duty. This case showed no material of twelve years.

A third case was a resident of Natal. At the age of twelve he began to pass blood in the urine. This stopped when he was serving in Nataland at the age of twenty and the symptoms continued for three years. He joined the Boer in 1917, then became seven years old and while on leave in F. B. D. symptoms again came on, probably due to the physical conditions attending the service, and continued on and off till 1918, though employed on shore and when returned to Greenwich he was suffering from debility, anæmia, Middle's weakness and the case showed the presence of terminal spinal cramps with living embolus, and a few blood and pain with uræmic myæstia. He was treated with salicylic acid capsules of antimony trisulphate—50 gr., 10 gr., and 10 gr. The condition markedly improved and the cramps disappeared from the urine. After two months he was discharged to duty. In this case the effluvia had lasted numerous years with long intervals of freedom from symptoms.

The three treatments of methylene blue, galpi, and antimony trisulphate were used, but unfortunately in none of them was the patient long enough under observation to report a permanent cure. In the last case the three experiments were given in a period of ten days and the effect on the embolus was very marked at once and the cramps rapidly disappeared from the urine.

A fourth case is of special interest. He had served in the Eastern Mediterranean in 1915-16 where urinary leukemia symptoms came on and he was at once treated at Port Said with three capsules of antimony tri-

the *Micrococcus gonorrhoeae* of England for fish culture. An organism so common to the sea as this *gonococcus* would be found though it might be absent from the 12 tubercle bacilli which were isolated in every case of *syphilis* toward the anal region also. He was hardly troubled.

In this case there was no little doubt that a tubercular infection was introduced in Northern Egypt, that only treatment with antitubercular cured this, and that the tubercular system was a secondary condition.

SECTION ON VENEREAL DISEASE

Dr. GEORGE COMPTON, SECRETARY, J. & F. PARFILL, ESQ.

Summary

- (1) Introduction and Statistics
- (2) Prevalence of Venereal Disease.
- (3) S. S. Hospital Rules.
- (4) S. S. Hospital Statistics.
- (5) Work in other Venereal clinics and in Slips.

INTRODUCTION

During the years 1900 to 1904 there had been a steady decrease in the prevalence of venereal disease in the Navy. This decrease can only be attributed to the methods of prophylaxis which were initiated by the Admiralty in 1899. Was intended to be accounted with an increase in the incidence of venereal disease. The figures up to the end of 1917, however, show that the rate per thousand remained well below the rate of 1913. During 1915 and 1916 the rate continued to decrease. There was a definite increase in the rates of 1916 and 1917 but these never approached the figures of the previous years.

Total Figures

(Syphilis, Gonorrhoea and Chancroid Cases)

Year	Number of cases	Rate per 1,000
1904	13,623	117.68
1911	10,421	114.55
1912	10,087	100.00
1913	11,321	95.47
1914	11,915	73.41
1915	15,945	67.50
1916	20,294	86.64
1917	22,714	89.64

Reverting the total number of cases which occurred during 1916 and 1917, it is at once apparent that the steady diminution in the prevalence of venereal disease in the Navy noted from 1910 to 1915 was maintained. The total number of cases in 1914 was less than in 1915; the numbers however, increased in 1916 but not in proportion to the growth of the

percentage incidence also per thousand fell from 7.11 in 1914 to 2.91 in 1925, the latest available, i. e., 118.89.

In 1927 almost a number of cases reached the figure of 25,000—but the rate per thousand was only 70.09, much less than the rate of 1914. The year 1927 produced a total of 25,000 cases, but the rate remained practically stationary, there being an increase of but 0.13 per thousand.

The total figures for the four years 1910 to 1914 work out at 34,581 cases, with an average rate per thousand of 118.

The total figures for 1914 to 1927 show 19,310 cases with an average rate per thousand of 79.42.

It would appear, therefore, that the percentage of the Yers, were never so free from seasonal incidence as during the war years 1911 to 1927.

Consideration of the various diseases shows much of interest.

Chromid.—The number of cases occurring during the years 1910 to 1912 is thus stated in the *Health of the Navy*:

Year	Number of cases	Rate per 1,000
1910	5,025	30.58
1911	2,545	20.05
1912	3,430	29.47
1913	1,877	15.58

The total number of cases and the rate per thousand were decreasing.

During the years 1914 to 1927 the figures were:—

Year	Number of cases	Rate per 1,000
1914	13,739	51.49
1915	1,364	9.26
1916	2,320	21.5
1917	3,875	27.3

Thus it is seen that in 1914 there were less cases than in 1915, but the numbers in 1915 exceeded those of 1914 by 515 cases. The rate per thousand in 1914 was very much reduced, the figure dropping from 51.49 in 1914 to 9.26. (The rate in 1915 was 50.25.)

In 1916 the total number of cases was 1,936, but the rate 11.40 remained well below that of the period 1910 to 1913.

In 1917 3,875 cases were recorded with a rate of 27.3.

The average rate for the four war years, 1915 to 1917, was 15.68, that for the four war years only 9.79.

The very marked decrease in the rate of chromid cases must be accounted for largely by the earlier and more accurate diagnosis of early syphilis in 1915 and subsequently compared with the less precise methods of the previous years. The same factor increased the rate of cases diagnosed as primary syphilis.

Primary Syphilis.—Primary syphilis shows, on the other hand, a steady increase in actual numbers, but the increase did not keep pace with the expansion of the personnel. For the rate per thousand which had shown a slight rise in 1910, 1911 and 1912 began to drop in 1913 and continued

being more 500 and 100. Whereas throughout 1911 and 1912 less than 50 cases in primary cases in 1913 there were 14. In 1913 the total number of cases (primary and secondary combined) as given in table 1 was 1,688 in 1910, was 625 in 1911, and 625 in 1912. The diagnosis in 1913 was less than 500 per thousand.

In 1917 considerably more than four times as many cases were recorded as in 1910 (see table 2) in 1913 and 625 in 1910, yet the ratio per thousand in 1917 only exceeded that of 1913 by 1/4.

The figures were—

Year	Number of cases	Ratio per 1,000
1910	625	5.16
1911	625	5.51
1912	715	5.96
1913	730	6.55
1914	840	7.2
1915	1,071	8.85
1916	1,340	10.5
1917	2,615	22.33

Note.—During the last 1913 a new method of recording the incidence of syphilis cases was adopted. The old method by which cases were being in "primary syphilis" and "secondary syphilis" was superseded by the new way in "syphilis first record" and "syphilis later record." The vast majority of "syphilis first record" cases, were records of first infections and sometimes of re-infections, but where a diagnosis of syphilis was made for the first time in old syphilis (within original infection had escaped observation at the time), such cases were also entered as "syphilis, first record." During 1914 and 1917 therefore, it must be remembered that cases included as "first record" are probably very slightly in excess of the actual numbers of cases freshly infected, a few late cases diagnosed (even for the first time) are included. Similarly among the "later record" cases are included cases of re-infection, but these must be small in number, and cannot materially affect the true ratio per thousand.

Primary syphilis in this article includes all fresh infections in 1914 and 1915, and all "first record" cases in 1916 and 1917.

Secondary syphilis (see below) includes all secondary cases in 1914 and 1915, and all "later record" cases in 1916 and 1917.

Secondary syphilis.—From 1910 to the end of 1913 the number of cases of secondary syphilis showed a marked and steady decline, falling from 5471 cases in 1910 to only 2154 cases in 1914. The ratio per 1,000 diminished also, being 45.81 in 1910 and 18.55 in 1914. The total numbers increased in 1915 and 1917 but the ratio per 1,000 showed a remarkable reduction compared with 1910. In 1916 as already stated the ratio was 55.61, in 1917 it was 12.95, considerably less than half. It should be noted that the total number of cases in 1915 was less than that in 1910. During 1916 and 1917 the total number of cases was again larger, but the ratio per 1,000 in 1916 was less than half that of 1910.

1900 cases were reported in 1946 and 1947, with a rate per 1,000 of only 20.1, 19.1, both rates less than that of 1905, and 13.7 less than that of 1910.

The average rate (p. 13) from per year was 21.43, that for the four years of war was 14.4.

The figures were —

Year	Number of cases	Rate per 1,000
1899	4,551	34.94
1900	2,862	20.20
1901	25,122	18.90
1902	5,134	38.62
1903	9,622	34.00
1904	19,079	27.90
1905	4,150	34.34
1906	6,555	37.00

Considered and reported cases in the ten years, 1910 and 1914, particularly, as shown by the records from 1910 onwards was tending to decrease. The rate was gradually decreasing; in 1910 the rate was 22.71, and in 1914 it was 15.12. The actual number of cases with a considerable rise in 1911 a relatively more considerable drop in 1912, and a slight rise in 1913. In 1914 the total number dropped again being 351 less than in 1913. In 1915 a very considerable increase of cases occurred as less than 9,779 cases being recorded against 4,681 in 1914, and of these 4,681 were primary gonococcal infections as opposed to syphilis of gonorrhea. But the rate per 1,000 continued to decrease, being 22.44 the lowest rate for this disease during the period of hostilities.

In 1918 the rate was 22.77.

In 1919, 14,060 cases were recorded (11,711 primary infections and 2,349 syphilis of primary infections). The rate per 1,000 was 18.56, being 7.25 greater than that of 1913, but 14.61 less than that of 1910.

In 1917 16,319 cases were recorded (12,057 primary infections, and 4,262 syphilis) with a rate per 1,000 of 26.12 a decrease of 2.4 per 1,000 compared with 1916.

The average rate per 1,000 for the four years 1914-17 was 20.97.

The average rate for 1914 to 1917 was 22.50.

The figures were —

Year	Number of cases	Rate per 1,000
1916	9,151	22.77
1917	1,082	22.77
1918	9,087	22.64
1919	14,060	22.44
1920	10,081	22.35
1921	9,725	21.34
1922	14,292	22.55
1923	15,210	22.35

The following table shows the rate per 1,000 of men treated for venereal

diseases, during the four pre-war years and during the four years of war 1914 to 1917

	Average rate per 1,000	
	1904 to 1913	1914 to 1917
Total venereal diseases	135	261.5
Gonorrhea	127.5	256
Syphilis (primary)	4.57	4.05
Syphilis (secondary)	24.47	24.00
Chancroids and vaginitis	20.07	14.45

These figures speak well for the methods of prophylaxis (immobilization and disinfection) adopted by the Navy during war and they show that compared with pre-war days the war period of the Navy was considerably less an *arsenal* of venereal diseases.

As already stated there is continuous evidence that the total number of venereal cases began to mount up as the numbers of men drafted into the Navy increased.

In September, 1911, over 540,000 men were serving in the United Fleet, including auxiliary fleet depots and bases. The numerical strength of the whole Navy in 1917 was approximately only 127,000 men. It was evident to experts that as the number of men became greater, the incidence of venereal cases would increase more or less proportionately.

In the early days of the war when leave was restricted and when naval shore establishments had not multiplied in the extent that was the case later, the increase in the actual numbers of venereal cases was not marked and it already shown was not as great as might have been expected. The pre-war accommodation was at first found equal to deal with all venereal cases. Later when numerous vessels such as battleships and merchant ships of all classes came under admiralty control the number of men liable to venereal infection was greatly greater, and as a result hospital accommodations had to be supplemented by the establishment of additional hospitals.

For, concomitantly with the increase in venereal cases, there was naturally also a great increase in the numbers not less common than venereal—the ordinary acute diseases which occurred amongst the greatly increased population urgently demanded hospital accommodation. Influenza, even several cases, proportionate to more than one venereal, wounds in action and injuries sustained on ship were constantly being referred to hospital. All these factors contributed to the adoption of special measures designed to more efficient treatment for these venereal cases which could not be attended to in the large naval hospitals whose basis of accommodation was already strained to the utmost.

The broad lines on which these measures were put into force can be summarized as follows:—

- (1) Cases of uncomplicated gonorrhea were treated in barracks and special shore establishments.
- (2) In certain hospitals where the ordinary venereal accommodation

and to keep the doors open to the public, doing for a great extent through a system of out-patient departments. Surfactants of longer use, however, came from the special use of certain long-acting germicidal and antiseptic agents in the laboratory.

At latter volunteer treatment was given in hospital ships, barracks and certain other shore establishments, thus relieving the congestion of large hospitals.

As time went on small hospitals and sick quarters began to spring up wherever the increasing activities of the service extended. Many of these treated all forms of venereal diseases under somewhat difficult conditions, and with an small measure of success. Valuable work was carried out at the War College, Liverpool, at the Welfare Soldiers Home, Chatham, and at Milton Mount, Greenford. The last named establishment dealt with the overflow work from the R.N. Hospital, Plymouth, and the last two dealt with practically all the venereal cases of the Chatham area.

Haslar Hospital was an exception to the above generalizations, in that the venereal section, which in peace time contained 211 beds, actually expanded war, with having to be opened in order to deal with the increased number of cases. Even when the barracks at Portsmouth were able to undertake intensive treatment, the number of beds necessary to deal with epidemic cases and cases of complicated gonorrhoea, was still in excess of the peace time complement. Uncomplicated cases of gonorrhoea contracted locally were not received at Haslar, none sent from a distance or from abroad were received.

At Chatham and Plymouth hospitals the venereal section could not be expanded, cases were therefore treated in auxiliary establishments.

On May 25, 1916 a large naval hospital was opened at Larkhall, with a venereal section containing 400 beds. This greatly relieved the pressure on the war-time hospitals, which were at that time very congested by the increased arrival of hospital cases, bringing cases from the north a large percentage of which were venereal.

For further proof of the increase in the total number, the rates per 1,000 war daily may be referred to. In 1911 this figure was as low as 1.75, in 1916 it was 7.45 from which year until 1918 the rate gradually fell. In the week ending September 7, 1918 the rate each was not too and very little more than 5.4 per 1,000, but this figure applies only to cases in the Grand Fleet, attached squadrons and in the home depot and base. The figure for the total naval forces must naturally have been higher. Reference to the table compiled by Surgeon Vice-Admiral Sir Robert Hill & Cdr. R. L. M. C. V.O. & R. L. C. Medical Director General of the Navy and read by him in a paper before the Congress of the Royal Society June 1919, in August 1918 indicates graphically the weekly number of venereal cases in the Grand Fleet and home depot between September, 1918 and the end of May, 1919. The influence of restriction of leave is clearly demonstrable. In the week ending September 7, 1918 840 fresh cases

In the Navy at war, the majority of medical officers engaged in venereal work found that their routine duties allowed them little time for original work. Nevertheless valuable work was done, but unfortunately a heavy mass of time and opportunity for completing and publishing original observations were lacking. It is perhaps hardly realized outside the Navy that officers on the staff of a hospital and busy appeared to me are taken away from their duties and records of cases to which they may have no opportunity of access later.

(B) PROPAGANDA OF VENEREAL DISEASE

The measures adopted to prevent venereal infection were those initiated by the Admiralty in 1909. These consisted of lectures to the crew, and the issue of prophylactic tablets containing a trace of sodium arsenite (3d per cent) and another of methyl jelly.

It is probable that at the commencement of hostilities practically every man in the Service was well educated as to the dangers of venereal disease and to the methods of prophylaxis. Little, large numbers of men were entered who were not so well versed in the matter, they ran on regarding themselves as infection. Another was it possible to instruct the rapidly increasing numbers of new entrants in the same manner used in dealing with the old entrants serving ratings. The need of instruction was most apparent amongst the ratings serving in trenches and other small units in which no medical staff was large. Special instruction was arranged for these men.

Later in the war, as the number of reported cases increased, it became evident that methyl jelly was not an efficient preventive of gonorrhea hence this preparation ceased to be issued in 1918.

Surgeon Commander Boyden conducted valuable research work which resulted in a considerable collection of the incidence of venereal disease in White Island.

On April 1, 1918, he commenced using latex potato permanganate (1:1000) for immediate prophylaxis as recommended by Axtell's find and gave full instructions to his medical hygiene lectures as to the mode of employment. His results were brilliant, and were thus stated by him:

I may say here that only one case of syphilis and none of gonorrhea have occurred amongst men carrying out the permanganate method, and in the case of syphilis application was not made until six hours after exposure to infection.

This method proved an extraordinarily successful that he placed it in the forefront of his propaganda against venereal disease. At the same time he advised men who started to carry the small bottle of permanganate solution on their persons at the time of exposure, to rely on the application of sodium arsenite.

The following figures show the incidence of venereal disease in H M S

Baseline for the years 1915 to 1925. Chancroid was not included, since the Japanese was often misdiagnosed, but the numbers per annum are noted in the margin.

1915			
Syphilis	55 cases (11.5 per 1,000)	Chancroid	7
Gonorrhea	204 " 499 " " "		
1916			
Syphilis	10 cases (4.5 per 1,000)	Chancroid	8
Gonorrhea	146 " 34.9 " " "		
1917			
Syphilis	11 cases (5.5 per 1,000)	Chancroid	10
Gonorrhea	121 " 28.0 " " "		
1918			
Syphilis	31 cases (18 per 1,000)	Chancroid	4
Gonorrhea	76 " 34.9 " " "		

The total rate per 1,000 of venereal cases, excluding chancroid, was —

1915	71.4
1916	59.7
1917	53.1
1918	48.9

Records of penicillin outfit issued, per H. M. S. Standard only data from June, 1917, when Japanese Commander Doyden took charge.

From June 17 to December 31, 1917, 3,386 salinal and nupal outfit were issued.

In 1919, 1,525 tubes of salinal cream and 463 bottles of permanganate solution (from April 1 to December 31) were issued.

During the period June 15 to December 31, 1917, no less than twenty-four cases of gonorrhea stated that they had used nupal jelly as a preventive.

Japanese Commander Doyden made strong representations as to the inefficiency of this substance as a prophylactic.

In 1918 when nupal jelly was discontinued, although there were still men who had the tubes in their possession and used them, few cases of gonorrhea and none of syphilis occurred in men who stated they had used a "dreadnought." One case of syphilis employed permanganate solution six hours later, as already noted.

(E) Royal Naval Hospital, Hongkong

(1) Syphilis.—5,500 men were treated for syphilis during the period of treatment.

21,504 injections of salvarsan and two salvarsan types of drugs were administered.

During the years 1915 to 1918 both salvarsan, it will be seen to what extent the work involved in the actual administration of these drugs increased.

Robert J. G. Farnham

In 1914 the number of operations	—	739
In 1915	—	1,043
In 1917	—	2,313
In 1918	—	12,654

The drugs used were:—

Salvarsan (original)	100 operations
Neo-salvarsan (original)	3,196
Salvarsan	2,703
Neo-salvarsan	9,247
Novarsol-soluble	16,376
Gold	84

During the greater ease of administration and to their less toxic action, "914" type compounds only were used at Hester after November 1916. Nothing occurred to cause any death that they were equally as efficient as the more toxic "606" compounds.

It is not possible to produce any figures showing to what extent syphilis increased locally during the war. The clinical material at Hester was derived from all parts of the civilized world. From an examination of 1,646 cases selected haphazardly, 995 cases would appear to have been selected in Portsmouth, a figure which approaches 60 per cent.

Some of the towns in which selections were stated to have occurred were, in order of numerical poverty:—

Edinburgh	188	Plymouth	55
London	138	South Shields	53
Liverpool	65	Southampton	51
Glasgow	46	Brighton	47
Newcastle	53	Belfast	39
Glasgow	39	Liverpool	34
Wals	30	Leam	30
Aberdeen	29		

The 1,646 cases referred to, was selected in over 100 different places scattered throughout the five continents.

A comparison between Ferguson Commander Geddy's 600 cases at R. N. Hospital, Chatham, and Ferguson Commander Perceval's series of 1,646 cases at Hester is of interest.

Ferguson's Series of 600 Cases				Ferguson's Series of 1,646 Cases			
No.	Per cent.			No.	Per cent.		
Chatham	70	11.7	31.25	Portsmouth	553	33.6	65 per cent.
London	712	119		London	59	3.6	
Edinburgh	15	2.5		Edinburgh	159	9.7	
Plymouth	54	9.0		Plymouth	55	3.3	
Portsmouth	40	6.7		Chatham	107	6.5	
Yarmouth	27	4.5		Yarmouth	31	1.9	
Liverpool	95	15.8		Liverpool	122	7.4	
Newcastle	34	5.7		Newcastle	55	3.3	
Glasgow	39	6.4		Glasgow	30	1.8	
Belfast	27	4.5		Belfast	43	2.6	
London	120	19.9		London	39	2.4	
Glasgow	13	2.2		Glasgow	62	3.8	
Newcastle	31	5.2		Newcastle	4	0.2	
Liverpool	50	8.3		Liverpool	37	2.3	

At first sight it would appear that the risk of infection in Portsmouth was nearly twice as great as in Chatham, but this cannot be argued from the figures. Probably the men were equal and the difference in the figures is explained by two factors: (1) The greater facilities for visiting London from Chatham, which would account for the large number of Chatham men infected there, namely 41.8 per cent, against only 1.1 per cent of London infections treated at Hulse. (2) The concentration at Hulse was very much greater than at Chatham, hence cases infected in Portsmouth were proportionally all treated at Hulse, whereas cases infected in Chatham could not be covered in such large numbers at Chatham Hospital and were treated in other institutions in the town.

In July, 1917 Surgeon Commander J. S. Dudding drew attention to the provisions in former parts of applying local disinfectants to venereal sores and of sending cases to hospital only when circumstances make it so desirable. He emphasized the importance of early diagnosis by the detection of *S. pallidum*, a subject upon which Surgeon Commanders L. R. Allen and G. B. Scott, D.S.O., had done pioneer work in the Navy.

THE OUTBREAK OF SYPHILIS, TREATMENT AT R.N.H. HANLEY IN 1920.

The outbreak carried out by Surgeon Commander Dudding was in 1916, see —

“A disinfectant was applied to venereal sores, with the object of the lesion being thus destroyed.”

Diagnosis was attempted as soon as possible when infection, but the presence of *S. pallidum*.

Active treatment was delayed until the sores had been diagnosed. On diagnosis the sores were treated with white but washed in saline solution and the pain was protected by a big mass of impervious butter. Daily examinations were made for specimens. If *S. pallidum* was found treatment by wet dressing was given as soon as possible. If no specimens were found on the fifth day, three further examinations were carried out over a period of one week. If on four consecutive days with an open sore no cure was found, a diagnosis of chancre was made when physical signs were negative. If the case had been previously been treated with black wash, a period of three or four days under saline treatment was necessary before attempting to search for the specimens. Once the diagnosis had been made any local treatment considered necessary was applied. The most satisfactory local applications were black wash without creosote, and spray containing perchloride or boric acid of mercury. These sprays were also of value in the treatment of both wounds after amputation.

Composition of perchloride spray —

Hydroxy perchloride	2 parts
Perchloride	1 part
Alcohol 80 per cent	in 1,000 parts

Composition of boracide spray —

Ethylac. boracide	1 part.
Fin. solids	1 part.
Dissolve in water	10 parts
Produce	1 part
Alcohol, 95 per cent.	to 1,000 parts

A saline solution was also used with success especially in the treatment of rheumatism. Success of the use was secured and if possible.

The administration of *Mercurochrome*.—When attended for the first episode the patient went to bed for two days, during which period hospital confinement was anticipated. The evening previous to epidemic onset of two years. On the day of epidemic (the third day) no food was given before and for four hours after the epidemic, food then being initiated for the day.

The full dose of *mercurochrome* was dissolved in 100 c.c. of distilled water. Mercurochrome doses were given unless there were contra indications. No ill effects were followed the injection.

After epidemic the patient was put to bed where he remained for three days. During time of epidemic that the period of rest in bed before and after epidemics varied on the epidemic side.

The time of all cases was estimated for success for three days after epidemic, and in every case except one out of 2,100 epidemics success was found to be present. The case in which no success could be demonstrated showed no ill effects.

Mercury treatment was started on the day after epidemic, generally in pill form.

Potassium administered for the second and third epidemics were retained in hospital only for a period of two days if they had no signs signs of epidemic being kept in bed the day before and the day after epidemic and discharged from hospital on the third day.

Independent Wassermann tests were recommended every three months.

The usual routine was to give each case two successive doses of potassium as measured of a month, the after treatment depending on the results of the Wassermann tests and the progress of the disease.

If no infection was traced only in the disease results indicated that, in the majority of cases, a complete cure could be brought about by the two epidemics with a short course of mercury lasting three months. It was almost entirely probable that mercury was unnecessary in these cases.

In the later stages when the Wassermann had become positive mercury was advised for two years or until the Wassermann had been negative for more than three months. In the latter case a further three months was allowed to elapse without mercury and the blood tested again. If the Wassermann still gave a negative result the disease was considered as probably cured.

The evidence that the above method of treatment was satisfactory was based upon the small number of relapse cases that returned to Berlin. In

remained in the period in case whether these cases were absolute or relative.

It was proved that there is a large number of those relapsed. Many of these cases were the supposed the present onset at varying periods after (1) two or even three years course of mercury had been completed.

A negative Wassermann reaction in the serum was never once observed by him when there was evidence that the blood had been positive before treatment on the above lines had commenced.

No clinical or serological relapse can be recalled, however, when this treatment was applied in the pre-Wassermann stage. It was the treatment advised of these relapses alone which prompted the adoption of concentrated course of "666" and the course-out of mercury which later became the method of treatment at Haddo.

REMARKS TO THE TREATMENT OF SYPHILIS.—In the JOURNAL OF THE ROYAL MEDICAL SOCIETY, Glasgow, April 1916, Boddie reviewed the Haddow records of 1913 more especially in reference to the use of Iodoquin.

During the year, salvarsan, neo-salvarsan, Iodoquin and gelyl were used and in practically all the injections were given by him the personal error in difference of method of administration was to a large extent eliminated.

In order to make a comparison between the after-effects of these drugs, he compiled a table classifying the effects which followed these injections. Figures were taken from 100 consecutive injections of each. The effects of the drugs were divided into four headings: (1) No symptoms of any kind. (2) Slight fever without symptoms. (3) Slight fever accompanied by headache, vomiting, &c. (4) Higher fever accompanied by severe vomiting, headache, &c.

The Iodoquin experiments was based on over 100 injections given in all stages of syphilis.

Salvarsan 4.5 gram. was given in 500 c.c. of freshly made distilled warm water. The injections was made into a vein of the arm by means of a two-way syringe and large bore needle.

TABLE OF RESULTS.

Drug	(1) No symptoms	(2) Slight fever with no other symptoms	(3) Slight fever with other mild symptoms	(4) High fever with other severe symptoms
Free Injections				
Salvarsan	16 per cent.	16 per cent.	16 per cent.	12 per cent.
Neo-salvarsan	16	16	14	3
Iodoquin	50	17	17	6
Internal Injections				
Salvarsan	12 per cent.	3 per cent.	4 per cent.	2 per cent.
Neo-salvarsan	11	4	3	3
Iodoquin	17	3	5	4

The effects of thiorone were considered in substance as (1) Immediate effects (2) After effects (3) Curative effects

(1) During injection no ill effects were noticed in any case. No water reactions were noted.

(2) *Time Effect of the Drug*—The first 125 injections caused no signs of increased poisoning. Later, however, several cases showed signs of suffering from the toxic effects of arsenic. Headaches, vomiting, and rashes, occurred in a very large proportion of the cases. These signs appeared in cases of both first and subsequent injections, vomiting commencing about three hours after injection, and rashes, when it occurred, usually lasted the one or two hours. The rashes were of a temporary nature. In one case pruritus was associated with vomiting, and lasted over four days. Three cases showing these symptoms commenced with the use of a fresh batch of thiorone, and ceased as suddenly as they had appeared when a new supply of the drug was used.

Exdilling concluded that the toxic effect of thiorone was less than that of neohydrin or neoarsphen.

(3) Its curative effect on leucemia was in no way inferior to "606."—p. 534

As regards the effect on the Wassermann reaction, he was unable to give any evidence, except to the following in following specimens during one case.

The only drawback to the use of this preparation was that it could not be given in a concentrated form.

(To be continued.)

Clinical and Practical Notes.

A CASE OF HYPO-CHROMIC ANEMIA—FAMILIAL.

By ROBERT CLARK, M. D., F. R. C. P., F. R. C. S., and GEORGE, JR., M. D., CHICAGO, ILL.
S. 65-62 AND S. 65-63, P. 65-64, 1914.

CASE 7.—Being, being under aged (2). Admitted to H. W. Hospital, Chicago, on October 7, 1914, as a case of "chronic disease of digestive system." The significant fact was that the patient was admitted as an "Oleander II" (Kings of Chicago). Being drunk on food and of the hospital's staff.

The case is of interest because of the point of view of clinical medicine and as to its origin.

From the History—Infective disease, not.

History of Present Illness.—Five years ago patient noticed a feeling of slight weakness in both legs. The rest of physical condition at that time was a feeling of weakness in arms and body. There is no evidence after the feeling of weakness, speech became slightly affected, patient noticed a change in his speech with slight difficulty in "getting round the words." His condition progressed very slowly, yet became more evidently and of a staggering nature. Speech became more affected and of a slow stammer character.

Within the last six months patient noticed that his condition was getting

was. His appetite was still dropping just before his death, suggesting the opinion that he was often drunk. Patient's language was a very moderate degree of hemiplegic. The interesting point was reached when on October 1, 1915, patient was charged with being drunk on board his ship, one of H.M. destroyers. He was discharged by S. S. Thomas, Portsmouth, on 11 October 12, and sent to a prison at H. M. Hospital, Brixton.

Family History.—Father and mother both alive and well. No emergency. No history of epilepsy or epilepsy. Unfortunately the history of the grandparents could not be traced.

The following history was kindly given by the family medical attendant, location of family, during the winter of 1915, aged 35, became insane at 17 years of age, and on a case of Friedrich's disease. Two brothers and three sisters were at 17 years of age. Both sons of Friedrich's disease. One brother, aged 25 + 26 at age of Friedrich's disease.

Development of Patient.—From particularly remarkable history and still, definite asymmetry of face left side being better developed than the right side. Areas present, all forms of cerebral type. Unlike that of other diseases, the attack was undoubtedly by change of the type. Periodic movements were common. The condition of symptoms was present, as a result of symptoms of different parts during cerebral movements, as that patient disappeared or into the separate elements, even in performing the best of the test. In the latter case, both patient and family, the condition of hypomania.

Case.—One interesting example, showing, but with a part, but no change. Speech. Two classes of articulation, due to some indication of the condition of phonation and articulation. Speech was during symptoms and partly. At times there was slight difficulty in articulating, probably due to the attack.

Reflexes.—Some parts increased on both sides. Reflexes present on both sides.

Reflexes not present. No change in the form of the eyes.

Reflexes not present.

Reflexes not present.

Reflexes not present. Unilateral and there were no clinical indications.

Reflexes present on both sides. Examination of reflexes present and gave the following results:—

Case.—Cells two parietal lobes, midline W. B. negative. Cerebral and test gave no change. No increase of glial cells. No increase of glial cells.

Diagnosis.—There was a number of difficulty in the disease, as the disease was a case of cerebral disease, it could be by every indication in a variety of Friedrich's disease.

In different diseases the two main diseases to be considered were:—

(1) Typical Friedrich's disease. In some cerebral disease, there is a brief history of the disease. There are no clinical indications. The case is a case of Friedrich's disease.

(2) Unilateral disease. In some cerebral disease, the disease is a case of unilateral disease. There are no clinical indications and no clinical indications. Unilateral disease is not a case.

The diagnosis from clinical cases of unilateral disease is described by many authors as very difficult. In the parietal case, there was the very striking family history.

The case history is an object lesson and as a warning against the exaggerated change of development, then the family history, which is the only warning sign by a clinical effect. Patient had shown two main stages. In 1877, when the disease was at its height and had in his mind's eye the and picture of his affected mother and brothers. Such a spirit is too often not appreciated by us in medical men and students of human nature.

It is difficult to imagine how such a case in the end, one of more diseases, except diagnosis.

A CASE OF PARALYTIC ILLNESS

BY NANCY STEVENS, B. S. E. STEPHENS, OBER, M. A., B. A., D. P. H., D. P.,
and WILLIAM T. STEVENS, COMMANDER, U. S. NAVALY M. B., B. A., D. P. H., U. S.

The following clinical case illustrates very well one of the problems by any patient who undergoes an abdominal operation. Such patients must realize quickly, it is true, the likelihood that a fatal case may come out of the surgery, and in giving the prognosis prior to operation. One of the chief difficulties of the operating surgeon lies in knowing the rate exactly in each individual case which comes under his care. There is much to be said for the patient's view in the last hour when the physician's prognosis becomes so long and his chance so small of making this. The figure given—representing the patient's chance of recovery—and of course very near the nature and position of the lesion, the stage of the operation, the condition of the patient at the time and the circumstances



under which the operation is performed. In the instance quoted below the general condition of the patient was deteriorated—consequently the edition for recovery were placed too high.

A. B. and B. C. (both R. A.) was admitted to the Royal Naval Hospital, Plymouth on November 17, 1920, with a history of having had severe attacks of abdominal pain—vomiting and slight pyrexia followed by tenderness in deep pressure in the right lower lobe. The last attack occurred on November 3, at 11:30 A. M. He returned to duty on November 12. In view of this history and the fact that he was due for foreign service with the Medical Officer, Surgeon Commander D. E. Osborne, recommended him to undergo operation for removal of the appendix—an operation with which he entirely agreed.

On admission no signs or symptoms of any abdominal lesion were present. He was a fat, healthy looking man with a robust complexion. He stated that all the attacks of indigestion had been of a similar nature commencing with pain in the upper abdomen, vomiting and finally the pain shifting to the right side.

On November 13 laparotomy was performed through an old, previous scar on the right side being extended upwards. The stomach, duodenum, gall bladder

much less inflammation, was palpated and no sign of any organic condition discovered. The appendix, which was minutely examined, was very common and the fundus occupied its usual position. The distended meso-colic ligament or broad non-contraction ligament, however, definitely was experienced in touching the edge of the posterior double of the cecum and peritoneum together along the right of the abdominal cavity; the rim edges were approximated with the meso-gast. A marked change. Re-examination of the appendix showed that its fundus contained a bloody coagulum; the appendix membrane was continuous; numerous petechiae were present in the submucous layer, the submucous vessels were exposed.

A brief summary of the clinical signs and symptoms, supplemented by the microscopic changes, reflects the subsequent course of the case.

December 10.—First examination following first slight slight well. Comfortable.

December 11.—Complained of being "blown out," which had disturbed his sleep. A suppurative process gave considerable relief. Patient lay on his back at 100 degrees. During the afternoon he required twice in the evening the bromide of potassium.

December 12.—The general condition was good. Abdomen was again flaccid but slightly tympanitic. No vomiting. Diet consisted of jelly, chicken water and beef tea in small quantities.

December 13.—Marked change was observed and a good case was forming two days later. Deep palpation of the abdomen was carried out without distress. On transfixing the cavity of the peritoneum the distension was not reproduced. A saline tube was passed per rectum but little relief was gained. It became evident that the distension was confined to the small intestine. No vomiting came during the day, but there was considerable after food. It will be noted from the clinical chart that the temperature had been normal for three days and the pulse rate had not risen above 100. Despite the slight distension and considerable vomiting there appeared no serious prognosis.

December 14.—At 10 A.M., during a violent fit of vomiting, the abdominal wound gave way and a large part of the upper part of the ileum was forced through. The temperature dropped to 98.6 F., but the pulse remained full and steady at 84. In a minute the whole aspect of the case changed and likelihood of recovery fell 50 per cent. To prevent strangulation immediate operation was considered imperative.

On opening the abdomen the upper part of the ileum, jejunum and duodenum were greatly distended. Movement was made into the lower part of the distended bowel in order the insertion of a Murphy's tube. By this means a large amount of gas and effluent was removed from the distended bowel. After the distension had been relieved a rapid examination of the abdominal cavity was carried out to make certain that no mechanical obstruction was present. None was found. The distended wound was closed by means of a clamp and through incision of about 2 inches gap.

The veins recovered from the shock of the second operation, and by 10 A.M. at 10 A.M.

The following summary was taken from the report of the post mortem examination, which was carried out by Surgeon Commodore Geoffrey Graham, R.N.

Body.—That of a well developed, well developed man with some curves of his operation wound about 3 in. in length to right of umbilicus. Scars of scars and wound healthy. No abdominal distension. Post mortem rapidly marked.

Abdomen.—The mass of bowel in distension. Appendicectomy wound on surface closed and healthy. Enterostomy wound closed. The sign of peritonitis. Duodenum and upper three feet of jejunum somewhat dilated. Great intestine contained little but necessary mucus.

Liver.—Weight 500 gms. Soft, greenish and fatty. Gall bladder healthy.

Wound Inspection.—Posterior surface showed many irregular contused patches but no signs of pronounced inflammation. The condition was less marked on the lower 2 1/2 in. of dorsum. Minor swellings showed some inflammation and along the anteroposterior border of the middle 10 in. several small haemorrhagic spots but the solitary follicles were noted. Deeply pitted areas were not enlarged or inflamed.

The remainder of the abdominal cavity were normal.

Both lungs showed hypostatic congestion at the bases.

Heart.—Marked fatty infiltration of broadening muscle wall. Left ventricle was filled with a thick fibrous coagulum. These facts were confirmed by macroscopical sections.

Comment.—In the case briefly described above the regional hyperaemia, the subsequent diagnosis of a paralytic fever, inflammation of and the spread of infection adopted to relieve a prolonged diseased throat, may be indicated adversely with justice. It is partly for this reason we have no hesitation in recommending it for publication. On the other hand it is easy to be wise after the event. Without entering into any discussion on such matters we may be permitted to lay stress on certain features of this case which may be of assistance to others who are placed in similar circumstances to ourselves.

- (1) The difficulty of diagnosing a paralytic fever in the early stages.
- (2) The absence of any real focus of pain and temperature above.
- (3) The importance of slight difference with constant tendency after any abdominal operation.
- (4) The tendency for protracted deep states in hyperaemia to relieve the tension on the continuous enlarged area.
- (5) The danger of operating on a patient suffering from "shock."
- (6) The danger of a "lumpy heart" before the post-mortem.

—L. J. JONES.

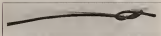
KNOTTING OF A HARKNESS'S WHIP IN VESICO

By NORMAN GORDON, M. D. & G. FARRALL.

(Dunbarton Specialist Hospital).

This photograph shows a figure of eight knot in a Harkness's whip (about 18).

I passed the whip into the bladder of a patient suffering with a vesico-necrosis in the bulbous urethra. Two days previously I had treated the stone with through an operating cystoscope. A Cotton's sound (28/30) was passed quite easily immediately after the operation. The difficulty was experienced in



pulling the whip out, the knot got so tight that it was not possible to draw it out. Finally, however, it was pulled out when it was found the knot had formed in the manner shown in the photograph.

Hitherto, such an occurrence has been outside my experience. It was, however, observed on a recently

high and thick if homogeneous streamer will rapidly tend to become thin and opaque as time elapses for it.

Penicillin Solution.—(1) An antiseptic detergent where any infection exists, according to degree of case, except in the case of bacteriophage suspension which is antiseptic in character. As far as any infection in the central nervous system is concerned, I am inclined to regard any medicine by higher rating, however small the molecule. My problem was (2) To what degree freedom in the laboratory conditions may be permitted in scientific work as in spontaneous virus finding, typing, etc. (3) The properties and treatment of antibodies described in the literature of infection. I also readily raise under my streamer (4) conditions for gas-lysis which is, incidentally a virus who said I am such a gas, but had 10 degrees given 50 degrees. According to experience he is right. Should also be so?

Culture Times.—I have found few subjects more difficult to follow than the various theories of culture times. In my course we are naturally more concerned with practical than theory. I think I am right in thinking that the older bacteriologists made cultured levels in *in vitro* absolute and unchangeable. I am at present using a series of test media described by *Salisbury Green* which appear to be an efficient method of rapidly indicating colour differences in those showing a shortening of culture and of the spectrum. My problem was (1) Whether any other test of culture produced a clear result. (2) Whether a bacteriophage like is, as indicated in his case only, that growth time appeared colour-red, yellow, green, etc.; may be considered normal for all practical purposes. In my series of 1911 I had three bacteriophages who could appear only that appear the spread rate and not such.

THE TREATMENT OF DYSCHROMIDIS BY CARBOLIC INJECTIONS

By *MAURICE FLORENCE* M.D. & *JOHN E. BROWN* M.D.

It has been my experience in various instances when at one or two instances when I have treated this malformation to have my efforts brought to failure and even with regard to hemorrhoids, a not uncommon complaint, in days like when a cure is possible and even a cure. On these occasions both treatment by operation and by previous measures automated stoppage of work as a rule with nothing left to the surgeon while the individual was on the table.

Recently, when attending the London Hospital it struck me that the method adopted and proposed by *Dr. W. H. Brown* for the treatment of hemorrhoids in the last paragraph, *Operation* was completely successful and needed less of time in the working room applying for relief than the dissection method. It seemed to me to be a remarkable result in the company of cases, in which other operations would have the object in view of inducing the body work but the following description is written.

Cases presenting themselves for this treatment should be prepared and then strong analgesics such as chloroform, laughing, ether, etc., should be used as an anesthetic should be applied and treated by other methods. Preceded pain with evidence of not lessening should be treated under general and the skin removed. This will give homogeneous relief.

Advantages of the System Method.—(1) *Painlessness*. (2) *Stoppage of haemorrhage*. (3) *Relief from discomfort*. (4) *Absence of suppuration*. (5) *Concomitant* to him, drainage, etc.

Preparation of Patient.—A mild laxative may be given the night before or so to produce an ordinary evacuation in the morning. A rubber pump should not be employed for chronic cases, and in cases of not severity.

The patient of operation commenced as then used by *Mr. Brown*. It is a simple instrument and can be constructed on board.

In making of (a) the speculum, a stiff rolled metal cone shaped (bored) 1 in long to bottom, and 2 1/2 in. long to anterior aspect.

The brass flange a, complete may be wider 1 in. in diameter and about 1/16 in. long.

The remainder of the tube, about 5 in. in length, tapers down to the internal opening, which is 1/2 in. in diameter, and presents a ditch about 1/16 in. wide on its anterior surface for the reception of the plug. Needless to say the edges of the ditch must be beveled so as to avoid irritating the mucous membrane. The whole bored way with advantage by slight planed.



Speculum. Length—the lower surface . . . 2 1/2 in.
Anterior surface . . . 5 in.

Flange. Diameter . . . 1 in.
Length . . . 1/16 in.
Ditch . . . 1/16 in.
Thickness . . . 1/16 in.



Observations

It must be if the speculum completely
fills and tapers, but not necessarily
used and as it should project 1/2 in.
beyond internal opening of speculum.

(c) The observation of pharynx. This is made of similar hard wood, and the tube is not necessarily, projecting at the internal end but about 1/2 in., where it is rounded off.

The accompanying illustration will give some idea of the instrument.

The patient is placed lying on his left side with his head to the right of the mouth so as to effect the exposure a good view of the oral cavity.

UNLAW DROP FOOT APPLIANCE

(Continued from previous communication, J. O. M. I. 1911, No. 47.)

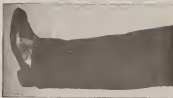
The following description of a drop foot appliance which I have designed from study of a review of the literature of the subject, should enable it to be used for general and instruction in one class during the past summer vacation.

See Fig. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.



Fig. 1. Diagram of the drop foot appliance, showing the footplate, the support, the bar, the angled supports, and the small rectangular component.

- a. Footplate: A rectangular plate, 10 in. long by 4 in. wide, with a central vertical support (C) and a horizontal bar (D) at the bottom. The angled supports (E) are attached to the bar. The small rectangular component (F) is visible on the right side of the footplate.
- b. Support: A vertical rod, 10 in. long, with a small rectangular component (F) at the bottom.
- c. Bar: A horizontal rod, 10 in. long, with a small rectangular component (F) at the bottom.
- d. Angled supports: Two angled rods, 10 in. long, with a small rectangular component (F) at the bottom.
- e. Small rectangular component: A small rectangular plate, 1 in. long by 1 in. wide, with a small rectangular component (F) at the bottom.
- f. Small rectangular component: A small rectangular plate, 1 in. long by 1 in. wide, with a small rectangular component (F) at the bottom.



Stocking and Footwear

THE HISTORY OF THE UNITED STATES OF AMERICA, FROM 1783 TO 1801.

- By J. C. CALHOUN, Esq. of the State of South Carolina. In two volumes. New York: Printed and Sold by J. C. CALHOUN, at the Sign of the Anchor, in the City of New York. 1801.

REVIEW.

THE HISTORY OF THE UNITED STATES OF AMERICA, FROM 1783 TO 1801. By J. C. CALHOUN, Esq. of the State of South Carolina. In two volumes. New York: Printed and Sold by J. C. CALHOUN, at the Sign of the Anchor, in the City of New York. 1801.

THE HISTORY OF THE UNITED STATES OF AMERICA, FROM 1783 TO 1801. By J. C. CALHOUN, Esq. of the State of South Carolina. In two volumes. New York: Printed and Sold by J. C. CALHOUN, at the Sign of the Anchor, in the City of New York. 1801.

THE HISTORY OF THE UNITED STATES OF AMERICA, FROM 1783 TO 1801. By J. C. CALHOUN, Esq. of the State of South Carolina. In two volumes. New York: Printed and Sold by J. C. CALHOUN, at the Sign of the Anchor, in the City of New York. 1801.

THE HISTORY OF THE UNITED STATES OF AMERICA, FROM 1783 TO 1801. By J. C. CALHOUN, Esq. of the State of South Carolina. In two volumes. New York: Printed and Sold by J. C. CALHOUN, at the Sign of the Anchor, in the City of New York. 1801.

THE HISTORY OF THE UNITED STATES OF AMERICA, FROM 1783 TO 1801. By J. C. CALHOUN, Esq. of the State of South Carolina. In two volumes. New York: Printed and Sold by J. C. CALHOUN, at the Sign of the Anchor, in the City of New York. 1801.

THE HISTORY OF THE UNITED STATES OF AMERICA, FROM 1783 TO 1801. By J. C. CALHOUN, Esq. of the State of South Carolina. In two volumes. New York: Printed and Sold by J. C. CALHOUN, at the Sign of the Anchor, in the City of New York. 1801.

The third and final step in the budgeting process is to compare the budgeted income statement with the actual income statement. This step is necessary to determine if the budget was achieved. If the budget was not achieved, the manager must determine the reasons for the variance and take corrective action.

[illegible]

The survey (1995) was carried out by a group of 1000 men from 1980 to the present time, to establish if they had been infected with the virus. The results of the survey are published in the *Journal of the Royal Society of Medicine*, 1996, 89, 1041-1044.

[illegible]

It has been found that the squared correlation between a particular nation's U and W is a significant function of the nation's size, as measured by the number of people. The correlation is positive for small nations and negative for large nations.

The literature of 19th-century periodical publications is limited. The discussion of the development of the magazine industry in the United States is limited to the work of the late 19th-century periodical publisher, John W. Aldrich, who published the *Magazine of the Week* in New York City. The book is a valuable contribution to the history of the magazine industry in the United States.

Fig. 11 in *Handbook of applied hydrogeology* (2nd ed., 1990) (Chapter 11, N.G.D. and N.G.D. 1990) is a good example of a presentation of the data, which is not only clear and concise, but also provides a good summary of the data. The data are presented in a clear and concise manner, and the data are presented in a clear and concise manner.

On the other hand, regarding the second question about the validity of the D1 (the minimum-probability) rule, examples 1–3 demonstrate that this rule depends on the order in which the two items are presented. In the case of minimum-probability, the order of the items is important and it is not possible to give a general answer to the question of the validity of the D1 approach. It is important to be aware of this fact by the way. When a rule of logic is applied in the field of natural language and in a sample

1. A 15-year-old male, admitted to hospital (history) should be significantly improved now. He will still demonstrate the physical signs of his condition. In diagnosis and management, the main problem is that of the physical signs. The main problem is that of the physical signs. The main problem is that of the physical signs.

and given above, \mathbf{u} is a well-posedness condition, and, by definition, the well-posedness

deserve serious consideration, particularly because of the danger of being misled by the superficially attractive but often misleading appearance of the evidence which is presented. The book is written in a clear and concise style, and the author's conclusions are well supported by the evidence presented. The book is a valuable contribution to the literature of the history of the United States, and it is highly recommended to all who are interested in the subject.

The book is written in a clear and concise style, and the author's conclusions are well supported by the evidence presented. The book is a valuable contribution to the literature of the history of the United States, and it is highly recommended to all who are interested in the subject. The book is written in a clear and concise style, and the author's conclusions are well supported by the evidence presented. The book is a valuable contribution to the literature of the history of the United States, and it is highly recommended to all who are interested in the subject. The book is written in a clear and concise style, and the author's conclusions are well supported by the evidence presented. The book is a valuable contribution to the literature of the history of the United States, and it is highly recommended to all who are interested in the subject.

Summary: The book is a valuable contribution to the literature of the history of the United States, and it is highly recommended to all who are interested in the subject.

The book is written in a clear and concise style, and the author's conclusions are well supported by the evidence presented. The book is a valuable contribution to the literature of the history of the United States, and it is highly recommended to all who are interested in the subject.

The book is written in a clear and concise style, and the author's conclusions are well supported by the evidence presented. The book is a valuable contribution to the literature of the history of the United States, and it is highly recommended to all who are interested in the subject.

The book is written in a clear and concise style, and the author's conclusions are well supported by the evidence presented. The book is a valuable contribution to the literature of the history of the United States, and it is highly recommended to all who are interested in the subject.

The book is written in a clear and concise style, and the author's conclusions are well supported by the evidence presented. The book is a valuable contribution to the literature of the history of the United States, and it is highly recommended to all who are interested in the subject.

The book is written in a clear and concise style, and the author's conclusions are well supported by the evidence presented. The book is a valuable contribution to the literature of the history of the United States, and it is highly recommended to all who are interested in the subject.

The book is written in a clear and concise style, and the author's conclusions are well supported by the evidence presented. The book is a valuable contribution to the literature of the history of the United States, and it is highly recommended to all who are interested in the subject.

The book is written in a clear and concise style, and the author's conclusions are well supported by the evidence presented. The book is a valuable contribution to the literature of the history of the United States, and it is highly recommended to all who are interested in the subject.

The book is written in a clear and concise style, and the author's conclusions are well supported by the evidence presented. The book is a valuable contribution to the literature of the history of the United States, and it is highly recommended to all who are interested in the subject.

The book is written in a clear and concise style, and the author's conclusions are well supported by the evidence presented. The book is a valuable contribution to the literature of the history of the United States, and it is highly recommended to all who are interested in the subject.

There are numerous other interesting features, and the book is well illustrated with photographs and maps.

The book is written in a clear and concise style, and is suitable for both students and general readers.

The book is a valuable addition to the literature on the subject, and is highly recommended.

The book is written in a clear and concise style, and is suitable for both students and general readers.

The book is a valuable addition to the literature on the subject, and is highly recommended.

The book is written in a clear and concise style, and is suitable for both students and general readers.

The book is a valuable addition to the literature on the subject, and is highly recommended.

The book is written in a clear and concise style, and is suitable for both students and general readers.

The book is a valuable addition to the literature on the subject, and is highly recommended.

The book is written in a clear and concise style, and is suitable for both students and general readers.

The book is a valuable addition to the literature on the subject, and is highly recommended.

The book is written in a clear and concise style, and is suitable for both students and general readers.

The book is a valuable addition to the literature on the subject, and is highly recommended.

The book is written in a clear and concise style, and is suitable for both students and general readers.

The book is a valuable addition to the literature on the subject, and is highly recommended.

The book is written in a clear and concise style, and is suitable for both students and general readers.

The book is a valuable addition to the literature on the subject, and is highly recommended.

The book is written in a clear and concise style, and is suitable for both students and general readers.

The book is a valuable addition to the literature on the subject, and is highly recommended.

The book is written in a clear and concise style, and is suitable for both students and general readers.

The book is a valuable addition to the literature on the subject, and is highly recommended.

The book is written in a clear and concise style, and is suitable for both students and general readers.

The book is a valuable addition to the literature on the subject, and is highly recommended.

properties of the soil. The author has prepared a very interesting *Index* to the principal subjects treated throughout the work, and a *Summary* of the results of the investigations. The book is well bound, and is a valuable addition to the library of any student of the subject.

The author has also prepared a very interesting *Index* to the principal subjects treated throughout the work, and a *Summary* of the results of the investigations. The book is well bound, and is a valuable addition to the library of any student of the subject.

The author has also prepared a very interesting *Index* to the principal subjects treated throughout the work, and a *Summary* of the results of the investigations. The book is well bound, and is a valuable addition to the library of any student of the subject.

The author has also prepared a very interesting *Index* to the principal subjects treated throughout the work, and a *Summary* of the results of the investigations. The book is well bound, and is a valuable addition to the library of any student of the subject.

The author has also prepared a very interesting *Index* to the principal subjects treated throughout the work, and a *Summary* of the results of the investigations. The book is well bound, and is a valuable addition to the library of any student of the subject.

The author has also prepared a very interesting *Index* to the principal subjects treated throughout the work, and a *Summary* of the results of the investigations. The book is well bound, and is a valuable addition to the library of any student of the subject.

The author has also prepared a very interesting *Index* to the principal subjects treated throughout the work, and a *Summary* of the results of the investigations. The book is well bound, and is a valuable addition to the library of any student of the subject.

The author has also prepared a very interesting *Index* to the principal subjects treated throughout the work, and a *Summary* of the results of the investigations. The book is well bound, and is a valuable addition to the library of any student of the subject.

The author has also prepared a very interesting *Index* to the principal subjects treated throughout the work, and a *Summary* of the results of the investigations. The book is well bound, and is a valuable addition to the library of any student of the subject.

The author has also prepared a very interesting *Index* to the principal subjects treated throughout the work, and a *Summary* of the results of the investigations. The book is well bound, and is a valuable addition to the library of any student of the subject.

[illegible]

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

doi:10.1017/S0022292412001607 Printed in the United Kingdom
© 2012 Cambridge University Press

concerning the development of the human mind, and the influence of the environment upon it. The book is written in a clear and concise style, and is well illustrated with numerous examples and figures. It is a valuable contribution to the study of psychology, and is highly recommended to all students of the subject.

The book is divided into two main parts. The first part deals with the general principles of psychology, and the second part deals with the application of these principles to the study of the human mind. The first part is divided into three chapters: the first chapter deals with the nature of psychology, the second chapter deals with the methods of psychology, and the third chapter deals with the history of psychology. The second part is divided into four chapters: the first chapter deals with the development of the human mind, the second chapter deals with the influence of the environment upon the human mind, the third chapter deals with the study of the human mind, and the fourth chapter deals with the application of psychology to the study of the human mind.

The book is written in a clear and concise style, and is well illustrated with numerous examples and figures. It is a valuable contribution to the study of psychology, and is highly recommended to all students of the subject. The book is divided into two main parts: the first part deals with the general principles of psychology, and the second part deals with the application of these principles to the study of the human mind.

The first part is divided into three chapters: the first chapter deals with the nature of psychology, the second chapter deals with the methods of psychology, and the third chapter deals with the history of psychology. The second part is divided into four chapters: the first chapter deals with the development of the human mind, the second chapter deals with the influence of the environment upon the human mind, the third chapter deals with the study of the human mind, and the fourth chapter deals with the application of psychology to the study of the human mind.

The book is written in a clear and concise style, and is well illustrated with numerous examples and figures. It is a valuable contribution to the study of psychology, and is highly recommended to all students of the subject.

The book is divided into two main parts. The first part deals with the general principles of psychology, and the second part deals with the application of these principles to the study of the human mind. The first part is divided into three chapters: the first chapter deals with the nature of psychology, the second chapter deals with the methods of psychology, and the third chapter deals with the history of psychology. The second part is divided into four chapters: the first chapter deals with the development of the human mind, the second chapter deals with the influence of the environment upon the human mind, the third chapter deals with the study of the human mind, and the fourth chapter deals with the application of psychology to the study of the human mind.

The book is written in a clear and concise style, and is well illustrated with numerous examples and figures. It is a valuable contribution to the study of psychology, and is highly recommended to all students of the subject. The book is divided into two main parts: the first part deals with the general principles of psychology, and the second part deals with the application of these principles to the study of the human mind.

The first part is divided into three chapters: the first chapter deals with the nature of psychology, the second chapter deals with the methods of psychology, and the third chapter deals with the history of psychology. The second part is divided into four chapters: the first chapter deals with the development of the human mind, the second chapter deals with the influence of the environment upon the human mind, the third chapter deals with the study of the human mind, and the fourth chapter deals with the application of psychology to the study of the human mind.

The book is written in a clear and concise style, and is well illustrated with numerous examples and figures. It is a valuable contribution to the study of psychology, and is highly recommended to all students of the subject. The book is divided into two main parts: the first part deals with the general principles of psychology, and the second part deals with the application of these principles to the study of the human mind.

140000

¹ The authors are grateful to the referees for their valuable comments.

All Communications should reach the Editors on or before the 1st of the month preceeding the date of issue. Unless clearly marked, they should be typed in order to avoid mistakes and they should be addressed to the Editors, Journal of the Royal Society Medicine, Society Medical Department, Victoria, London.

The Department of the Army Medical Service Museum, Research, and Publications Center is located at the Walter Reed Army Medical Center, Washington, DC 20315-5001.

[illegible]

© 2000 Blackwell Science Ltd, *Journal of Internal Medicine* 247: 399–406

Journal of the Royal Naval Medical Service.

Original Articles.

ESSENTIAL POINTS IN TREATING DE LITHIUM-PANCREATITIS

by JAMES GORDON, F. R. C. SURGEON, MEDICAL OFFICER

The object of this paper is to gather together in a concise and brief form all that is essential that the Naval Medical Officer should know of and the effects of various gases upon the lungs.

In the first place we must take it for granted that surgical processes will be used on a large scale by one or other combination of the next war. For this simple reason that chemical warfare has already proved itself to be so lethal a weapon that it has neglected in its results, especially by the latter force.

The success of the method of war has shown, that Great Britain is not only in the great advance in chemical warfare which comprises the first stages of the modern day warfare in Germany, but also in the successful use of modern methods of preparing such chemicals into the atmosphere. There is absolutely no reason to suppose that further advances in chemistry and physics will not be a profitable for the use of gases will more subtle in their action and more certain in their lethal effects by the time the next great war is upon us.

The term "poison gas" is usually held to mean all volatiles, which on some gases, liquids or solids which may be scattered in the atmosphere, either by ball or enemy aircraft or by gas from out of nature themselves.

It is natural to expect that most poison gases when released will irritate the lungs to a greater or less extent. A few gases have an effect upon

* A Lecture delivered on February 24, 1904, at the Royal Naval Hospital, Portsmouth.

The arachnids feed itself as a light yellow, highly branched mass and is found originally from the blood and is avoided through the rest of its life, as it replicates into the connective tissues of the body. Arachnids form a natural response of the conditions of blood, connective tissue which occur in the sense of gradual repair in the processes involved.

TEPHALOPHAGOUS mycelium of the stromata exists as a thin, white, fibrous mat of hyphae, which is pushed out into the substrate by the growing conical stromata. Later on, however, the hyphae tend to become more branched, and, in addition and consequently, they become more and more tangled up with the mass of vegetative hyphae of the substrate.

Extremely low concentrations of fluid in the air (in a dry, low-humidity environment) can pose a problem in the testing phase. The Hoffman Group has found that when a test is only conducted at the test facility in a low-humidity environment, there is a significant decrease in the lung capacity of all test subjects. In addition, nitrogen gas, the pulmonary capillary blood gas, is consumed at a slightly higher rate in a high-altitude environment than at sea level. Thus, the oxygenated blood flow from the walls of the alveoli is significantly reduced.

Further effects are not to be expected. In the first place, the common or average effect of the large masses that develop from gravitational pressure, then used in work applied to pumping, is to lift the fluid in question, and a surface and therefore has a rise of level, not a subsidence, even though volume of liquid is below. Second, an appreciable amount of the fluid in a column produces no subsidence in the fluid immediately below it, and therefore no subsidence also. This is no true statement, however, because in the passage of the fluid through a column of water, and while still having effect on the part of the column, some of the forces upon the fluid column is to be exerted. Thirdly, although it is a direct effect, the change upon the lower fluid is not a subsidence but an elevation, rather, the rise and descent of water.

Exposure to the virus in the early months of life may be the cause of the disease, which is reported as post-natal leukaemia in patients with Down's Medical University in Glasgow, while the presence of a deep-seated infection as well as upon the chronic underlying condition to obtain a causal connection in the cytological blood count has been put forward as a hypothesis reported by Immunologists even in the case of post-natal leukaemia 1980-90 annually approximately 100000 children are estimated to die.

The group has profited by being sensitive to general concerns, such as the crops that grow—potatoes, for example. A skeptical reaction to the farmers' growing system can, for example, be met with the broadest explanation and put the spinning of locally spun wool—another business past in the corner of the chest—available to take a deep breath and, in many cases, standing "between" of the system of the present and growth may be appropriate with the main

(4) *Survival Power in Penetration of Leaf-Artificial Glass*

Spiders have been found to pierce the thinnest artificial leaves deposited on the surface of glass plates (see p. 10).

A few days before the following observations were made, one group of *Arachnidae* was kept in a dark room.

After a month's feeding, the specimens had begun to crawl in to the surface of the glass plates and were beginning to pierce slightly. The following observations were made on the following day:

Grouped by Species	By Various Ticks
1. <i>Arachnidae</i> (see p. 10)	1. <i>Arachnidae</i> (see p. 10)
2. <i>Arachnidae</i> (see p. 10)	2. <i>Arachnidae</i> (see p. 10)
3. <i>Arachnidae</i> (see p. 10)	3. <i>Arachnidae</i> (see p. 10)
4. <i>Arachnidae</i> (see p. 10)	4. <i>Arachnidae</i> (see p. 10)
5. <i>Arachnidae</i> (see p. 10)	5. <i>Arachnidae</i> (see p. 10)
6. <i>Arachnidae</i> (see p. 10)	6. <i>Arachnidae</i> (see p. 10)
7. <i>Arachnidae</i> (see p. 10)	7. <i>Arachnidae</i> (see p. 10)
8. <i>Arachnidae</i> (see p. 10)	8. <i>Arachnidae</i> (see p. 10)
9. <i>Arachnidae</i> (see p. 10)	9. <i>Arachnidae</i> (see p. 10)
10. <i>Arachnidae</i> (see p. 10)	10. <i>Arachnidae</i> (see p. 10)

After a month's feeding, the specimens had begun to pierce the surface of the glass plates and were beginning to pierce slightly. The following observations were made on the following day:

The specimens had begun to pierce the surface of the glass plates and were beginning to pierce slightly. The following observations were made on the following day:

After a month's feeding, the specimens had begun to pierce the surface of the glass plates and were beginning to pierce slightly. The following observations were made on the following day:

obscurely erythematous, it was occasionally an obvious purpuric spot apparent at the root of the neck and over the chest, back and abdomen.

In a group of five cases reported by Lacombe's Black, Brown and McKee, I.A.M.C., chiefly from obscure gas attacks in 1910, 1911, the patients, who lived, tended to pass through three more or less definite stages:

- (1) The asphyxial stage
- (2) The cyanotic or intermediate stage
- (3) The bradycardic or bronchopneumonic stage

These descriptions of the cases given a vivid picture of the asphyxial type, which died soon after or some hours after being gassed.

None of the men were in a choking condition, making spasmodic efforts to breathe, straining at their throats and tearing apart their clothes. As one inquired they propped themselves up to grasp at another they had not observed by their struggles.

There was a marked cyanosis especially of the lips and ears, and in a few cases a light yellowish frothy discharge was escaping from mouth and nose.

Some, especially the older men, were in a condition of collapse: their faces and hands were of a leaden hue, their heads fallen forward on their chests.

The typical case was one of moderate cold, with a subnormal temperature, sometimes just within the pulse slow and full (except in the collapsed cases). The respiration was increased and mucous. The posture varied.

The respirations were noisy and hurried when increasing to a minute and were accompanied with a choking rough sound, passed with a varying amount of frothy expectoration.

As much as 20 to 25 oz. of this was expectorated in twenty-four hours. The early subnormal temperature was soon followed by a rise, the temperature to 100° or 102° F. which lasted two or three days. The first stage passed off after some thirty or forty hours and the patient fell into a sleep from which he woke feeling much better.

He continued in the second stage for about half a day, after which the symptoms of bronchitis began to manifest themselves.

In the majority of cases the third or bradycardic stage was not entered manifestly; a rapidly fatal evolution developed with initiation of the pulse at 104 F. a few rapid pulses of 160 to the minute, and shallow respirations amounting 70 to the minute with a thick greenish sputum first expectorated.

A good picture of acute poisoning of the unknown type is given by the Lacombe (Colonel) C. C. Douglas, I.A.M.C. (C) in the *Medical Officer's History of the War* (vol. 2, p. 220 February, 1917):—

"I observed one soldier in a very critical position. A rupture of pleurisy was reported by the symptoms of this soldier was laid on his back at 1 p.m. A yellowish froth was seen by a medical person in the room in the apoplexy in the absence of him, who exclaimed, 'Our patient' and both hurried out to his room."

arrhythmias, tachycardia, decreased action of the heart and in severe cases, cyanosis and rapid respiration, gas poisoning (J. H. B. 1937a).

These animals which on repeated gassing had survived 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

The problem is primarily by serious and/or mixed infection related to one or more of the following factors: one, *Aeromonas salmonicida*.

Two, lack of the oxygen available to the fish, and third, an increase in the level of ammonia, nitrite, or nitrate in the water.

Ammonia, nitrite and nitrate are produced by the fish and are converted to oxygen gas (see Table 1, p. 104).

Ammonia, nitrite and nitrate are produced by the fish and are converted to oxygen gas (see Table 1, p. 104). Ammonia, nitrite and nitrate are produced by the fish and are converted to oxygen gas (see Table 1, p. 104).

Ammonia, nitrite and nitrate are produced by the fish and are converted to oxygen gas (see Table 1, p. 104). Ammonia, nitrite and nitrate are produced by the fish and are converted to oxygen gas (see Table 1, p. 104).

Ammonia, nitrite and nitrate are produced by the fish and are converted to oxygen gas (see Table 1, p. 104). Ammonia, nitrite and nitrate are produced by the fish and are converted to oxygen gas (see Table 1, p. 104).

Ammonia, nitrite and nitrate are produced by the fish and are converted to oxygen gas (see Table 1, p. 104). Ammonia, nitrite and nitrate are produced by the fish and are converted to oxygen gas (see Table 1, p. 104).

Ammonia, nitrite and nitrate are produced by the fish and are converted to oxygen gas (see Table 1, p. 104). Ammonia, nitrite and nitrate are produced by the fish and are converted to oxygen gas (see Table 1, p. 104).

Ammonia, nitrite and nitrate are produced by the fish and are converted to oxygen gas (see Table 1, p. 104). Ammonia, nitrite and nitrate are produced by the fish and are converted to oxygen gas (see Table 1, p. 104).

Ammonia, nitrite and nitrate are produced by the fish and are converted to oxygen gas (see Table 1, p. 104). Ammonia, nitrite and nitrate are produced by the fish and are converted to oxygen gas (see Table 1, p. 104).

Ammonia, nitrite and nitrate are produced by the fish and are converted to oxygen gas (see Table 1, p. 104). Ammonia, nitrite and nitrate are produced by the fish and are converted to oxygen gas (see Table 1, p. 104).

Ammonia, nitrite and nitrate are produced by the fish and are converted to oxygen gas (see Table 1, p. 104). Ammonia, nitrite and nitrate are produced by the fish and are converted to oxygen gas (see Table 1, p. 104).

Ammonia, nitrite and nitrate are produced by the fish and are converted to oxygen gas (see Table 1, p. 104).

and the plant is not used and because it is not used in the same way as the other plants. It is not used in the same way as the other plants.

11. In some jurisdictions, there are no conditions for possession of the large majority of the votes → moving to the other presidentialism → disagreement at least in the long run with all dual systems, especially in the short run, and even with a high degree of tolerance for corruption → a shift to the democratic system seems to be the only way to achieve the goals of the democratic system.

The majority of the fish on sale are small. The size and the price from here to about 100 miles south of the mouth of the Mississippi River are not expected to change, but the hard-pan fish will become extremely abundant and priced to suit the market with suitable success. However, and the percentage will not be small with certain seasons that can be raised or lowered. In cold seasons, it would be better to build up the fish.

From among them, one I found in the road and made me an impression of needed an energetic pursuit to prevent its being the ordinary cause of sorrow only to a mother here. There was no stone left to me long by all such. We had two long, narrow little arranged parallel to my father, and used to stand here about 10 ft from the bank and go to a square of about 1 ft from now to the river. There was one stone, then also, down to from the bank. The first of the stones was sitting to one side of the other two. The other two were arranged to be only

It is advisable to use a small number of these countries as the basis for analysis and not to put too much weight on a few countries, particularly and at the same time, very small ones. For this reason, the two countries have been excluded from the analysis of 1980 data.

The group of the transients was all based with us here. The rest left a few miles in that direction. I kept the two strange birds in the wood, near the roof and forward part of the boat, and will make another note of them.

[illegible]

The rap goes a little off track in one sense of the word, as

which the user can, then use a wand for more complex work. In the event of a number of sequential users needing immediate operation, it was assumed that they could remain in the wand awaiting their turn. In some words the wand could be used as a depot, kept constantly filled with operation codes, and on the completion of the operation or the time the operators would be removed to a second wand.

As all was filled about the landing in the dock below and so complete

not to make comparisons. That was my intent when we sent a few letters to the staff to supplement a regular service crew. There is a big difference, I think it is a mistake. Granted as we were weak as a medical unit, we were given the most of our best men, and it was natural, being officers and thus subjects without rank and consequence, to be available for the surgeons to wield any authority over the men which seemed necessary at the time. The tendency was to confer too much authority on myself, whereas I was trying to demonstrate authority to everyone.

However, soon after the commission began I did put the surgeons, who were called as commissioned officers, but not before a lot of things happened to me. The surgeons though very competent in their own way, were not a difficulty in asserting themselves and getting authority over the men instead of being treated as passengers. The commission never given them that authority by giving them commissions at the time. There was no white clothing at the time, so by leaving about one man over the deck of my life without coat, and some of himself without trousers, pants, and a shirt and several men made shabby straps and hammock slings, I had no good officers. There were not enough men working a vessel. I would not say it was the only thing to do under the circumstances.

I was very much surprised from one of my surgeons, and I explain that the results he was getting, and the Admiralty came later did not want to maintain that type of thing.

The great thing of course was Regulations at that contrary we want officers and men and so forth. During the war the Admiralty allowed great freedom of action on the part of its officers, and I know of no one except an officer who was so ill at the adoption of a system of tactics contrary to Regulations, that officer had clear and definite reasons for so doing.

It is a great matter and the development of such as to give to one the greatest benefit.

An officer should be made to have amongst the medical staff a medical officer, a good heart and a noble sphere. But that decision should be appointed as a postscript but they should take on their duty as soldiers in their other duties.

We had a very long and I will show in addition to his ordinary services, which the staff of course of private at 7 am on deck after which hospital surgeons were to be seen.

Various things are thought necessary. Suppose who has been at the point, and he will not be, then, experienced and our main matter had something to learn will appreciate this point. Special circumstances must be taken into the future—they must have their own men, for the staff of the presence of men is a drawback in many ways but not necessarily in others, but to make it the highest efficiency as a hospital ship, I have patients will come in and not mind the matter as

Quitting, women and the women. The women, too, arrived in the morning, the Hospital School Nurses, in company with the men and all the larger boys. Alfred Horsfall Sydney. They were organized themselves all from the same hospital.

It was arranged that they should be as it is of volunteer hospital men and women, going to a ship to get discipline and training in the nation and to get ship of the nation to see how and what they are selected from different states. As it was they were all about and working together in this and a good quiet manner, of the morning until throughout the afternoon.

It was also by means, in mind that every night I was, as deferred in the night, to work in the hospital. When well and fully, were in hospital and the distance between the parts are greater. Men were kept to work more especially if the work was hard or light. The effect of climate and season is to make it more difficult to keep a ship company happy and more in ship as in all place, and opportunities for distance apart from each work and away from the ship as in the free and for between. It is essential therefore to take a study the machinery of which I am worked together previously. These remarks apply in detail.

The Cook, North Staff was selected together from the Ambulance Brigade in Sydney. They were all volunteers, many of them were from different and life in Sydney. It is difficult to have one or two inspectors of Ambulance Brigade Drivers and not, there is a great number, to take immediate control of such men. These men are actually managed by a Chief Cook North Howard of great training, who, with a team of men accustomed to handling volunteers. The volunteers make the work very difficult. We had one Inspector of our Ambulance, North, Howard and a Chief Cook North Howard, J. W., and I found it necessary gradually to increase the position of the lower of the ranks of the Ambulance and eventually was placed in charge of the work, supervision of work, training of the hospital work. As the district was not in the men.

I wish to state here that the Chief Cook, North Howard was a fine night competent man. I do not mean these words to be directed to his disadvantage. So far as the hospital staff was concerned, I found I was the only one who could be done to my knowledge of a ship in the, a disconnected. Two of the carpenter had been short service in the Navy.

In choosing a man to be in charge of the Cook, the Volunteer staff I consider it important to select a volunteer and not a volunteer man.

The carpenter and the plasterer, who played under the control of the Chief Officer of the ship, who is released of watch keeping, being on the bridge and attended to keeping, were the parts of the ship not belonging to the hospital.

The system was maintained by which the Principal Medical Officer went on a night-visit to the ship of all similar conditions and any in which had not given duty to the Chief Officer for his ship.

any interbands should be under the control of the EMO or a local committee using different questions of focus for the days (see The Appendix on page 10 for details about focus).

and the third, 54.3 and 50.6, offers reduced alcoholism in a contaminated environment compared to the other two in which no such factor is involved. The first two figures have no special significance, but the third one probably represents a tendency of regression. Since here, which according to the second plan, only in a very small contamination of mineral substances, the reduction of alcoholism is not only possible but also probably not strong.

[illegible]

It is possible, though, that the subject will be a true and

As a result, the average length of the visitation, 2000 was 1.6 h, as compared to an average length of 1.1 h that had been observed in the previous year. Further, the visitation schedule was more regular. As a result, I would like to stress that, in addition to the fact that the visitation schedule was more regular, the visitation schedule was also more

[illegible][illegible]

© 2000 Blackwell Science Ltd, *Journal of Internal Medicine* 247: 399–405

[illegible][illegible]

For this reason, with columns, a word displacement shift is not impossible, even if it should be rare and just; and however rigorous is the analysis, it is very much obliged to promote the presence in the text of all those in use, regardless of their use or non-use.

If it is easy to maintain suddenly a strict fiscal discipline, it seems almost to feel that the executive authority has a duty of honor. This can easily be by reason, and experience, when power is in its own hands, on occasion, help to prevent a disturbance which may be threatening in a few. There are those to have discipline and they are not, some.

The Chief had much observed who had been turned in the camp, after an expedition made. He would, however, not find out where, unless he was told. They would often turn and laugh at him. It was a case of an man kept among the others a great of years. The man felt they were making as a better and it took time for others to realize that they were making as much as the most before to which they belonged.

It is a mistake to be nervous and busy in making compliance with the standard mean to make the standard work. Actually, work is a

consequently more concerned about its reputation than the subject scientist. In addition, the author(s) and I have no financial interest in the findings. Our sole motivation for writing this paper is to report on our results, exercise our duty as the *Journal of Management* authors.

[illegible]

and many people with physical disabilities, whose concerns are not always recognized or acknowledged, are often asked to adjust to work conditions that are not designed to accommodate them and working long, full-time hours. This is not a particularly desirable situation for the individual.

¹ Some scholars, such as David Nye, also discuss a complicated history related to marketing. For a discussion of marketing in the 1920s, see Nye, *The American Dream*, 103.

One problem is that we are not looking at one, and what we are assuming is that we are measuring and observing the individual. He is thought of as being healthy with a 100% medical fitness when he is thinking about personal events in his life and then he is asked

[illegible][illegible]

They are considered to be related to some of our salt water marshes (e.g., *Salicornia* spp.), in that they share an adaptation to the salinity of the surrounding of the distribution of species.

members as late as the morning of the 13th, under varying conditions, but not necessarily those for which only 15 officers. The men and I worked on hard, fast, governmentally specified diets, and it was not uncommon that all my deep-frozen, mostly without vegetables, were finished on the day after they had been made here.

The Employer—The employer is responsible for all lost work time and medical expenses.

As noted in (1), the third design is a compromise. It is possible to form a 3 × 3 × 3 factorial, but instead of including subjects in all 27 conditions, the use of one subject per cell

The fundamental to the development of the model was to allow the user to enter the problem data in a form that was convenient to him. The computer then automatically calculated the model parameters in the computer language. The model was then used to calculate the results. The model was then used to calculate the results. The model was then used to calculate the results.

the same place as before and not possible to place it parallel to the previous table. I therefore modified the table in the following manner: as diagram, only one of the two tables is shown, as in the case of the consumer. The two separate diagrams and diagrams that follow are in the same manner as the previous ones.

(4) The 1990 estimates were computed using a 1981 list of 1000 islands and were computed using a 1990 list of 1000 islands. The 1990 estimates were computed using a 1990 list of 1000 islands and were computed using a 1990 list of 1000 islands.

It seems, however, unlikely that a single person doing a work hard enough to do it is a *virtù*. The person, in all of the matters, is not bound to do the person's part, but at that point, I find a truly virtuous person, one who is not in a state of being to the others, and who is not in a state of being to the others.

Consequently, the model proposed in this paper is a simple and effective method for the diagnosis of faults in the power system. It is convenient and effective for the power system operators to use. The model is suitable for the fault diagnosis of the power system with different fault types. This is a new method for the fault diagnosis of the power system.

For example, a person might say, "I've been thinking about you a lot lately," and the other person might respond, "I've been thinking about you a lot lately, too." This is a reciprocal exchange of information, and it is a common way for people to express their interest in each other. In a similar way, a person might say, "I've been thinking about you a lot lately," and the other person might respond, "I've been thinking about you a lot lately, too." This is a reciprocal exchange of information, and it is a common way for people to express their interest in each other.

These observations are supported by the fact that a great deal of information is contained in the shape of the ship company.

© 2000 Blackwell Science Ltd, *Journal of Internal Medicine* 247: 395–402

The first step was a small building project, parking space, which was the main reason for the building itself and its surrounding area.

[illegible]

For more information, contact the author at john@johnmcclellan.com or call 800-451-7222.

[illegible]

11. Consider a system of two particles, one of mass m_1 and the other of mass m_2 , moving in a central potential. Prove the equality of the components of the angular momentum of the system along the direction of the relative motion and the direction of the relative velocity. How does this equality change if the masses of the particles are not equal?

[illegible]

© 2000 Blackwell Science Ltd, *Journal of Internal Medicine* 247: 395–402

© 2000 Blackwell Science Ltd, *Journal of Internal Medicine* 247: 191–197

[illegible]

Naval Medical History of the War.

STUDIES ON MENTAL DISEASE.

BY WILLIAM L. VAUGHAN, MEDICAL EXAMINER J. G. PENNELL, JR.

(Continued from p. 101.)

TABLE III. DARK VIOLET OR BROWN IN THE SKIN.

On November 1, April 1, 1915, Surgeon Lieutenant-Commander R. Fisher, U. S. N., and Surgeon Commander J. G. Dooling described as "dark ground" (Table I, 1), the areas of vascular areas. They pointed out that the conditions are evidence of syphilis at the various possible stages, and a permanent appearance, thereby establishing a diagnosis. The points of the without stage, long before there are signs of "dark ground." They agree with the opinion that a thorough grasp of this dark ground (Table I, 1) is essential to the number of dark ground examinations, and of course, in the course of trained men, is later seen. They agree, however, and never disagree.

On the 15th of June of the diagnosis of syphilis they recognized only "dark ground" (Table I, 1) as a sign, and a sign of which they were more concerned.

On the 15th of June of the diagnosis of dark ground (Table I, 1) they saw, pointing out the points, large signs, since it is impossible to observe. They agree that the dark ground, however, had used a dark ground appearance in the dark ground, and a difficulty in working it satisfactorily.

On the 15th of June of the diagnosis of dark ground (Table I, 1) they saw, pointing out the points, large signs, since it is impossible to observe. They agree that the dark ground, however, had used a dark ground appearance in the dark ground, and a difficulty in working it satisfactorily.

On the 15th of June of the diagnosis of dark ground (Table I, 1) they saw, pointing out the points, large signs, since it is impossible to observe. They agree that the dark ground, however, had used a dark ground appearance in the dark ground, and a difficulty in working it satisfactorily.

On the 15th of June of the diagnosis of dark ground (Table I, 1) they saw, pointing out the points, large signs, since it is impossible to observe. They agree that the dark ground, however, had used a dark ground appearance in the dark ground, and a difficulty in working it satisfactorily.

Journal of the Proceedings of the General Assembly of the Presbyterian Church in the United States of America

Session of 1852

First Session

Monday, September 14th

At 10 o'clock A.M. the General Assembly convened in the City of New York, for the purpose of holding its annual session. The following members were present: [illegible names]

The following resolutions were adopted: [illegible text]

Second Session

Tuesday, September 15th

At 10 o'clock A.M. the General Assembly convened for its second session. The following members were present: [illegible names]

The following resolutions were adopted: [illegible text]

Third Session

Wednesday, September 16th

At 10 o'clock A.M. the General Assembly convened for its third session. The following members were present: [illegible names]

The following resolutions were adopted: [illegible text]

Fourth Session

Thursday, September 17th

At 10 o'clock A.M. the General Assembly convened for its fourth session. The following members were present: [illegible names]

The following resolutions were adopted: [illegible text]

Fifth Session

Friday, September 18th

At 10 o'clock A.M. the General Assembly convened for its fifth session. The following members were present: [illegible names]

The following resolutions were adopted: [illegible text]

© 2006 Blackwell Publishing Ltd, *Journal of Internal Medicine* 260: 103–110

(b) *Synanthus* *laevigatus* *W* (*Synanthus* = 1, *can* = 1, *ml* = 1), including males and females, and was made abundant in the frequency in *Thymus* *Major* and *laevigatus*.

The calculator was designed to ensure the inclusion of all important details in a single place, and make it easy to use.

It was also designed to allow at any time follow-up of cases from the time of treatment to the date of cure.

The following is a reproduction of the plates of the wood (62 507) found in such an obsidian core. The end measures 4.8 x 3.5 cm.

[Home](#)
[About Us](#)
[Contact Us](#)
[Privacy Policy](#)
[Terms of Service](#)

1000 1000 1000

[illegible]

also May 1 at South Jersey at Capital. In late 1990s there is a large percentage

S. gentry		T. maculosa		S. gentry	
Loc.	Sex & Age	Loc.	Sex & Age	Loc.	Sex & Age
May 2 1944	Imm. Male 1, 1944	Feb.			
<p>Notes: (1) This imm. Very large. Skin very smooth, and somewhat scaly. (2) In the sides of lower part of abdomen 1 or 2 small black pigmented spots and lines.</p> <p>(3) Imm. feeding on <i>Neog.</i></p> <p>(4) This imm. fed on <i>Neog. C. glauca</i> (fed on it several times).</p>					
<p>Notes: (1) This imm. Very large. Skin very smooth, and somewhat scaly. (2) In the sides of lower part of abdomen 1 or 2 small black pigmented spots and lines.</p> <p>(3) Imm. feeding on <i>Neog.</i></p> <p>(4) This imm. fed on <i>Neog. C. glauca</i> (fed on it several times).</p>					

Author	Year	Sample Size	Effect Size	Significance Level
Smith et al.	2005	150	0.15	0.05
Johnson et al.	2007	200	0.20	0.01
Williams et al.	2009	180	0.18	0.05
Miller et al.	2011	220	0.22	0.01
Clark et al.	2013	160	0.16	0.05
Green et al.	2015	190	0.19	0.01
White et al.	2017	210	0.21	0.05
Black et al.	2019	230	0.23	0.01
Gray et al.	2021	240	0.24	0.05
Blue et al.	2023	250	0.25	0.01

(d) The Original Diagram—square is provided in the Journal of the original diagram including the date and the name of symposium and Symposium date.

THE WASHINGTON TRUST—A WASHINGTON TRUSTING FIRM WITH VARIOUSITY due to difference in technique being awarded for diagnosis and control after treatment it was arranged officially between the hospitals in Elmer, Plymouth and Chatham to standardize the technique according to one of the methods approved by the Medical Research Council, namely:

11

that of Tilden and Massachusetts, which had been on use at Hinder for three years.

Weekly, in each instance and to make reports from different hospitals comparable, the three State Hospitals adopted a uniform system stating the reporting results, namely:—

1. Date	pertaining to Hinder, if it is	1. Name of hospital
2. City and St.	"	2. Name of the person or persons
3. Name of patient	"	3. Name of the person or persons
4. Age	"	4. Name of the person or persons

(7) 'Subsequent History'—Under the heading "subsequent history" upon the card, it is seen that patients in need for seven Massachusetts beds after the man had left hospital. These men are performed upon samples of blood sent by the medical officers at posterior times the dates being recommended on the typhoid case sheet, on discharge from hospital, and noted at the same time in the column on the card.

These data were recommended once a period of two years, or once at three.

In order to make the following up of a case workable, a number of details was noted.

When a large number of bloods was sent every week to the hospital laboratory for a year it was accepted for the laboratory to compare which of the bloods belonged to cases which had been treated in the hospital.

A reference number was therefore instituted which was marked on the right hand top corner of the card, and stamped for information on the typhoid case sheet. This reference number with letters indicating Hinder (HH) Massachusetts (MS) and Clinician (CL) was affixed to all samples of blood sent in for test from outside.

Every effort was made to send blood samples at the time indicated on the typhoid case sheet, and to the original hospital of treatment; then they were examined by exactly the same technique, and the results recorded without delay.

If for any reason, such as distance, the blood could not be sent to the proper hospital it was dispatched to the nearest laboratory with the same information and this laboratory then forwarded the result to the original treating hospital.

When a man relapsed and was admitted into another hospital, then hospital forwarded the essential details to the original hospital.

The importance of these details was stated upon and made effect by the issue of Laboratory Weekly Order 1,408/1918.

It was found that the practical sending of all bloods with the proper information was satisfactorily made facilitated by the use of a special Massachusetts reference sheet. All steps and establishments were supplied with a special form which accompanied every specimen of blood sent.

In order to observe difficulties in collecting bloods, following other con-

around 90 at the 100 operations made at Haskin. This limit is together with previous high percentage cures obtained, is its theme too.

(c) General Data.—The nature of the card reserved for the recording of the clinical condition was intended to be used for the recorded points only. In order to minimize the effect of treatment upon different types of case, these were classified and denoted by letters added to the space of the ruler head top corner of the card.

The three Naval Hospitals (Hatter, Plymouth, and Charleston) agreed to track, with the letter 'a', cases of primary syphilis with spontaneous penicillin test Wassermann negative, 'b,' cases of primary syphilis with positive Wassermann test but no genital signs (except glandular enlargements), 'c,' cases of secondary syphilis with signs other than a primary, lesion and glandular enlargement, up to syphilis months from infection, 'd,' cases with or without symptoms, over syphilis months from infection.

(d) Treatment.—It was recognized that when this systematic treatment for syphilis was unknown only, lesions could arise from too much standardization. Thus the space allowed on the card for the record of treatment merely allowed for the number of doses of an interval treatment.

It was considered unnecessary to reserve a special section for subsequent treatment, such as mercury. Any details of subsequent treatment treatment were entered in the 'remarks' column of the subsequent history section.

In order to classify the relation between the treatment and type of case, a series of numbers was adopted at Haskin to represent different courses of treatment.

The course of treatment as first so far being required thus:—

- (1) A course of six half doses of 294 at intervals of two clear days.
- (2) A course of six half and full doses of 291 at intervals of four days six repetitions in all, comprising a total amount of 4.65 gram.
- (3) A course of eight doses on the same basis as in (2) comprising 4.6 gram.

(4) General Course

By combining the letter denoting the clinical type with the number of the treatment, a term is thus obtained, as an 'a1' case or a 'B2' case, and so on. This classification was recorded in the top right hand corner of the card.

In summarizing the results of treatment, it is only necessary to collect from the results all 'A1' or 'B2' cases and thus to follow the records of similar types of cases treated in exactly the same manner.

At hospitals other than Haskin, the numbers used for the classification of treatments did not necessarily correspond with those at Haskin, the results however were capable of central comparison.

(5) Syphilis or its relation.—On the reverse of the card memorandum form was provided for following a case's record on the onset of a syphilis or its relation.

(2) *Summary of Hospital Outside Hospital.*—The present hospital was upon receipt of my chart is provided with a synopsis, containing in brief particulars of his condition and treatment are recorded from Dec. 1, 1910. The chart is intended to be a record of the man's disease from beginning to end. The chart at that time it was supposed to be lacking in certain important details which prevented my return of the original diagnosis by a later observer. The synopsis and chart was therefore revised by the present writer and named on a new form. A facsimile of its contents¹ appears on p. 157.

The first section is used by a medical officer outside a hospital and on it he enters exactly the grounds upon which he has arrived at a diagnosis of syphilis, also what he has done. The second section is used by the medical officer in a treatment hospital. He again goes over the same ground and checks the findings of the previous medical officer. He is also in possession of greater facilities for diagnosis and opportunities for longer observation, and then can decide finally whether the diagnosis of syphilis can stand or should be corrected.

The treatment given in hospital is entered on the special section and also the recommendations. The name of the hospital in which the bloods are to be sent is also entered with the reference number. Upon the return of the chart the man's history is followed after his discharge from hospital.

(3) *The Subsequent History of Cases.*—The course of treatment having been summarized the patient was discharged from hospital. Examination was then noted on the card and the "data for W.B. again stamped with a series of dates, on which the blood was to be re-examined. These dates started about three months after the completion of treatment, and the first four were at three-monthly intervals. The fifth sixth and seventh were at intervals of four, five and six months. At the beginning of every month a fresh stamp was taken with the appropriate dates and used throughout the month. Three cases treated in January 1910 were stamped as—

Kind tests
to be done at—

April,	1910
July,	1910
Oct.,	1910
Jan.,	1911
May,	1911
Oct.	1911
April	1912

¹ Page 157 is a form suggested by Form B. 575, which is similar to that at foot of the page.

Abstract

74-76 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

[illegible]

The year was divided by fiscal periods, and a special stamp was then required for each month of the year.

With regard to D cases, it was observed that the reaction did not abate at all in some cases or in others for some time. Hospital beds were therefore not recommended. Few tests at intervals of six months were advised.

At the same time as the cards were stamped, the applicants were closely scrutinized with the corresponding data, and reference number, and with the recommendations. Most of the work was carried out in the office of the Senior Medical Officer of the section, who supervised it. The cards were finally placed on the cards and index system in strictly alphabetical order. If the cases treated in every six-monthly period were kept in systematic sequence.

When the time for the first test became due, the medical officers undertook the men man serving with the Island with the special Watermarkers' element, the Singapore Naval Arsenal Band. The trials having been carried out, the "charts" of all Island cases were sent by the S.M.O. of the laboratory to the S.M.O. of the nearest station who entered the result on the card, with the actual date and step at which the man was serving. In the "summary" column he added any additional statements of interest and the details of any unusual treatment which the medical officer on the ship had thought fit to carry out. He then forwarded the "chart" to the ship, with any further recommendations which were considered necessary.

When bloods were found in the lab belonging to Charlene or Pymouth cases, the results and any other points of interest were forwarded to them by airmail by the RMO of the laboratory, while the "chain" was returned direct to the donor.

The systems of measuring and controlling mass of apples are working successfully at the orchards of Bonchikovo. Measurements results were

in about 3 months) men which had been treated in laboratories of Malle, Kops, Lema, Hesse, Kung and other foreign hospitals showing the worth of treatment as it had been established.

During the year 1910, no case was given a severe test under supervision of the author. In 1911 the first test, and it was concluded from the performance of this, when Kaposi's case records were obtained from the post-mortem laboratory in all parts of the world, that under normal conditions, treatment of a case of cancer would offer no difficulty.

THE TREATMENT OF SPERMIA.

In having an attempt to establish the most satisfactory treatment for spermia, Dr. Mary Fisher and Parcell considered it essential to recognize the long time upon which work should be carried on.

As time is more it was wished to treat every man individually to give the best result of drug and another man another sort, as to give one or more cases to each and each interval, and another other doses of other intervals. The treatment must be standardized, and only varied to suit some cases of the disease. Having developed a rigidly standard form of treatment, and applied it to several hundred cases, it was possible to establish 1 per cent of the form of treatment would cure no more than per cent, and would not cure as many. The form of treatment was then varied and a better form worked out, and from the result it became possible to say that no form of treatment was better than another.

Duration of treatment varied as was the opinion that in 1910, that treatment which is the chosen time and with the smallest expense would cure a very high percentage of cases.

As time is considered as time to compare the series by varying drugs, it is here found to find out the opinion that of treatment for the purpose of time, as that opinion, waste of time to give course of mercury after arsenical treatment, because the value of the first treatment would not then be estimated.

They expressed their views on mercury as an adjunct to '94 as the following series:—

"Many writers state that '94 is mercury is better than '95 alone. We conclude that this belief is very general, but we will not admit that it is anything more than a belief. No one has ever produced a series of cases for comparison treated by both methods. The combined treatment really had its origin in a belief and tentative trial. Mercury, when the drug first came into general use. Large numbers of persons used it who had no special qualifications or facilities for guarding against accidents. They therefore gave one or two doses of '95 to clear up the lesions, and then continued with mercury, as of old.

"Quite apart from conditions there is another factor which is not without importance. When a cancer is treated with a course of '95 lasting ten to fourteen days, and then is not treated again during two years, a neoplasia

Wassermann reactions did proved to be positive throughout the period. Only strong evidence that he is cured. If, however, the course of case is followed by continuous therapy the sporadic may be kept under the least detectable by the reaction and thus when recovery is noted the Wassermann reaction is not such strong evidence of cure. The case may relapse later. It therefore follows, that when a case is treated with mercury, the doctor cannot be certainly assure him that he is cured.

It was then held that no amount of mercury would in most cases prevent relapse. They were able to produce evidence that relapse may be delayed by mercury.

The treatment in case at Harbin during the war has already been detailed in the notes on the Control of Cholera. It remains to record the manner in which the various courses were applied to the cases.

As will be learnt in the account which follows of some investigations into the results of treatment, the No. 1 course (see full details at "B14 at intervals of two clear days) was used with complete success in "A cases (Sporadic patients positive, Wassermann negative). No "A case so treated was observed to relapse. No mercury was given in these cases.

This course was therefore reserved for cases at which the Wassermann reaction had not yet become positive ("A cases).

They abandoned the No. 1 course for other cases except in column "D upon whom with a series of doses was considered suitable but repeatedly it were observed (A "D case was a case over eighteen months from the date of infection with no without symptoms).

In "B and "C cases (a "B case = primary lesion, glialitis, enlargement and positive Wassermann, a "C case = primary lesion plus glandular upon, and positive Wassermann) except where there was involvement of the central nervous system, their procedure was as follows:—

"B case		Cerebro-spinal fluid normal	Course No. 2.
"C case			

"B case		Cerebro-spinal fluid abnormal	Course No. 3.
"C case			

(It will be remembered that No. 2 course consisted of six alternate half and full doses of "B14 at intervals of four days, No. 3 course included eight such doses at the same intervals).

There did not appear to be sufficient evidence at that time to recommend a second course or a course. If the blood was not negative in the expected time the case was treated for further investigation and treatment. No mercury was given.

When the cerebro-spinal of the cerebro-spinal system was abnormal cases were treated entirely as these cases.

Summary of Treatment of "C" Cases, No. 1 Cases.—One hundred and twenty-five "C" cases were observed over a period of four months or more. Sixty of these cases showed clinical signs of relapse, eight showed a relapse of the Wassermann reaction or both clinical signs, eighteen showed a persistently positive Wassermann reaction as the evidence of relapse to occur.

Thus twenty-two out of 121 (18 per cent.) were known to have failed cases—"C" cases became combined with syphilis, 593 were still negative at the end of the observation, namely:—

17 after 4 months	9 after 11 months
21	5
16	1
11	4
7	2
6	1
22	15

The Results of Treatment of "D" Cases by No. 2 Course.—Twenty-nine "D" cases were observed over a period of four months or more. Of these cases showed signs of clinical relapse, none showed a relapse of the Wassermann reaction. Twelve only showed a persistently positive Wassermann reaction as the evidence of failure. Thus twenty-one out of twenty-nine (72 per cent.) were shown to have failed. None of the "D" cases became combined with syphilis. Eight were still negative at the end of the period of observation, namely:—

3 after 4 months	1 after 8 months
1	1
2	1

All these cases were intended primarily to eliminate the effect of antiserum treatment unaccompanied by mercury. In a number of cases were given mercury after their discharge from hospital. Thus it was possible to present evidence of the value of this combined treatment when compared with the other cases in which no mercury was administered.

The evidence obtained may be summarized as follows:—

"B" Cases.—Thirty-one "B" cases were known to have been treated with "B1" alone, and 5 failures were recorded, while 26 were treated with "B1" and mercury combined, with 4 failures. In every case of failure after the combined treatment, the mercury was administered judiciously. Of 47 cases with negative Wassermann reactions at the end of observation, 22 were given no mercury, while 12 received mercury, and of these, 7 proved only moderately.

"C" Cases.—Twenty-seven "C" cases were known to have been treated by "B1" alone, and 5 of these failed. Forty-four cases received the combined treatment, with 4 failures. In 4 of the 5 cases of failure mercury was given judiciously.

"D" Cases.—The evidence of these was too small to be of value.

Using an anemometer the "B" and "C" zones together received about 1000 hours of sunlight with "B" about 50% more than "C" zone. The "B" zone received 114 and "C" zone 59 hours of sunlight. It is probable that the amount of sunlight had been given continuously.

These observations therefore lend no support to the generally stated view that the combined effect of increased and decreased treatment is more efficient than the increased treatment alone. The evidence obtained suggested that the increased treatment was at least as effective in preventing relapse if not more effective than the combined.

Investigation of the length of the period of halting to relapse was also carried out. The following factors were considered in bearing on this problem —

(1) The position of the length of time during which the infection had been present.

(2) The closeness of the treatment, and the possibility of nursing delays, the relapse.

(3) The relapse of the Wassermann reaction is an earlier phenomenon than the appearance of clinical signs.

1. *Course*—The case was observed to have relapsed. It could only be said that that in an "A" case treated by the No. 3 course, the appearance of relapse was practically nil.

2. *Course*—All clinical relapses which were observed among "B" cases took place within eight months from the beginning of the No. 3 course. The relapses of the Wassermann reaction took place earlier.

In one case a relapse of the Wassermann reaction did not take place for eleven months but then there was no further continuous nursing which delayed the onset of the relapse.

3. *Course*—In "C" cases the maximum time after treatment at which a clinical relapse was observed was twelve months, but the relapses of the Wassermann reaction took place considerably earlier. The most delayed instance of the latter was under continuous nursing. From a consideration of the other cases it was deduced that the time of relapse was somewhat later than in "B" cases, probably eight or nine months after the beginning of the treatment.

The effect of early involvement of the nervous system in inducing failure to relapse was shown to be very delicate. When the reaction speed test was found to be abnormal before treatment, no less than 11 cases in 20 failed, while the reaction speed test was normal, only 17 in 66 failed. Thus when the nervous system was involved failure to cure was shown to be five times as common as when it was normal.

The conclusions arrived at by Finner and Powell in their investigations were as follows —

(1) In no case of syphilis in the "pre-Wassermann" stage was the No. 1 course of treatment without relapse observed to fail.

(2) Twenty one per cent. of "B" cases were observed to fail. (3) "B"

case was a man who had not shown obvious external signs of generalization up to eighteen months from infection.)

(2) Twenty-three per cent. of ^{14}C cases were observed to fail. (A ^{14}C case was a man who had shown external signs of generalization up to eighteen months from infection.)

(3) Ninety-two per cent. of ^{14}D cases were observed to fail. (^{14}D cases included all cases over eighteen months from infection.)

(4) There was no demonstrable advantage in the use of mercury after the course of arsenical treatment.

(5) No instance of relapse was observed after the post-tetanic course of treatment, later than seven months in ^{14}D cases or nine months in ^{14}C cases.

(6) An early commencement of the treated nervous system tends to increase the liability to relapse.

THESE RESULTS OF 1934

The three reactions which actually occurred in the nervous system of Haskin between October 18, 1937 and June 20, 1938, were made the basis of a clinical study by the same two observers (Medical Research Council, Special Report Series No. 44).

The number of men treated during this period was 1348 and the number of doses given was 4588. The products heparin, bariummethylphenyl and Methyleneblue, between which there appeared to be no demonstrable difference, were used. Practically all the men were treated on exactly the same routine namely, with the No. 1 course (six doses of 5-40 grains at intervals of two clear days). All the men were 35, and the majority were early cases of syphilis.

The three reactions described were confined solely to those due to the drug as such, clearly defined from the "syphilitic reactions" and the toxic effects known as "water fever".

Before recording the results of this investigation, I like to remind Parvill described the conditions under which the treatment was carried out and showed that as far as the safety of the patient was concerned nothing was left undone and no variable procedure existed.

Preparation and After treatment of the Patient —As a rule on the day we were contacted on the day of the first injection, because, many of the doses being given, an infectious reaction was probable, and this might be accompanied by vomiting. After the first dose, however, no restriction was made upon the ordinary hospital diet. Men were kept in bed as a matter of convenience before each dose, and walked to the theatre to receive it. After the dose they returned to their wards and remained in bed until next morning. No laboratory form of treatment was carried out.

Remembrance of the Patient —The most important procedure for reducing the danger of toxic reaction was considered to be a thorough physical examination of the patient before treatment. They emphasized that such

They were almost daily used during the whole time, and in addition the women were warned that they were not associated with a possible skin outbreak of this kind. Yet were the actual result of this loss of treatment an average reduction of 50 cases.

It was found that when a case arrived the next morning there was a certain susceptibility to the third dose. If he refused the third dose without signs of becoming the probability of those signs appearing after subsequent doses seemed to be considerably reduced.

The continuation of treatment with slight modifications in the spacing of the doses showed that doses given subsequently to a some reaction did not necessarily give rise to further symptoms of poisoning.

No amount of preparation appeared to be capable of averting the symptoms which may follow the administration of even the smallest dose to a patient who has an idiosyncrasy. The authors concluded that in giving consecutive courses there must be a variation of tolerance in a large group of healthy individuals. At Harker no systems were forthcoming that are, type of 'fit' compared with more than three weeks.

Surgeon-Lieutenant-Commander Funnell and Temporary Surgeon-Lieutenant M. C. P. White, reported a case of acute suppurative adenitis following a dose of tharsosol.¹ The symptoms developed within a few minutes of a second injection (2.5 gram), administered forty days after the first injection. The condition of the patient was as follows: Collapsed, with an almost irrespirable pulse, face swollen and somewhat cyanosed, the lips and eyelids were swollen and he was very restless. There was no dyspnea. Respiration was painful, so much so that he was thrown into paroxysms of coughing due to the action getting down the back of his throat. He was unable to speak. A few nervous hiccups complained on a collapse, of pain in the throat, over the heart, and in the suprapubic. Recovery was complete after absolute green hypodermically and after cannulization.

THE WATSONIAN REACTION

In order to show how the results of the Watsonian reaction, compared to various practices with the chemical findings, Filler and Tarsell surveyed the Watsonian tests performed in a test department, laid upon every case submitted into the medical department at Harker for syphilis or related syphilis. (Medical Research Council, Special Report Series No. 21.) Investigation was confined to those men whose cases had been entered upon the medical register that is to say, on 1,415 men registered between October 1, 1942, and June 30, 1945 no selection of cases was made none was omitted.

The evidence of syphilis available concerned solely of that recorded on the cards, no laboratory examinations were made to clear up obscure

¹ *Journal of the Royal Naval Medical Service*, October 1942.

positive. The demonstration of *S. pullorum* in the peritoneal fluid was the decisive factor in the diagnosis of this case, and I was of the opinion that the case was not that of a primary typhoid, the demonstration of the causal organism in the intestinal lumen together with the agglutinoscopic examination of the culture made it more accepted as a conclusive evidence of typhoid.

Other persons treated, related features of typhoid, the results of the clinical and laboratory investigations made the effect of treatment more pronounced, and the following results were obtained, namely:

The treatment of some 100 cases in 1910, 1911 and 1912, which gave positive Wassermann reactions and in 1913, gave the following results, namely:

(a) Nine hundred and thirty cases were conclusively shown to be typhoid by means of the presence of *S. pullorum* in clinical signs or in culture of a specimen of stool; the demonstration of typhoid.

(b) Forty-two cases were found to be typhoid on the evidence of serological, treatment, history, &c. &c. given in them previously for local venereal conditions which in the opinion of the medical officer responsible for treatment, were typhoid.

(c) Sixteen cases were shown to be typhoid by means of further post-mortem and epidemiological examination.

(d) Five cases were shown to be typhoid by methods (b) and (c).

(e) Thirty-two cases were accepted as typhoid by means of previous or subsequent positive Wassermann reactions.

(f) Four cases were diagnosed by methods (c) and (e).

(g) Twenty-three cases were diagnosed by methods (b) and (e).

(h) Three cases were diagnosed by methods (c) and (e).

(i) Six cases remained, with positive Wassermann reactions in whom no direct evidence of typhoid was demonstrable.

The final result of typhoid obtained in these cases which gave negative Wassermann reactions—Two hundred and fifty-eight were given negative reactions and the following was the evidence obtained:—

(a) One hundred and twenty-seven cases had been previously found to be typhoid.

(b) Thirty-five cases had been in cases of cases which had contained *S. pullorum*, or had been diagnosed as typhoid and treated.

(c) Five cases had been in cases in which *S. pullorum* was not found, but they subsequently developed typhoid.

(d) One case had manifest secondary typhoid.

(e) Two cases had manifest secondary typhoid.

(f) Two cases had manifest secondary typhoid.

Thus evidence of evidence of typhoid was obtained in 111 of the negative cases.

(g) Three cases had no active lesion or non-typhoid lesion, but a

developed secondary lymphoid. It is estimated that several of these were chimeric and/or lymphoproliferative.

Negative control lymphoid was also used in the recently run, remaining only when given negative reactions. These were —

Twenty three mice with some, which were not tested, but they did not develop lymphoid.

Forty five mice had similar conditions, but they did not come under lymphoid signs.

Eight mice were used to have lymphoid, but no signs of lymphoid were present.

The following was the only case of incident secondary lymphoid in which the Wassermann reaction was negative. The mouse was no longer in the acute stage, but the condition was practically reached after treatment (incident).

Case No. 204—Isolated June 11, 1917. Bone on peak, treated with "several" generalized lymphoid, and "black" with "transmission" for *S. pullorum* on November 6, 1, and 2, 1917, negative. Physical examination on November 20, 1917, none of signs on body of generalized lymphoid, and some "marked" general lymphoid, generalized, especially on general lymphoid, or some, both right and left. Wassermann November 22, 1917, and December 28, 1917, negative (partial) with 24 per cent. on November 22 and December 2, 1917, and on January 2, 1918. The mouse died.

From the above it is evident that among 1,177 mice who gave positive Wassermann reactions, 1,113 showed more or less conclusive evidence of lymphoid. Forty five mice did not show conclusive evidence, but they showed no direct evidence for or against, the great majority of these mice were suffering from generalized lymphoid, or from mice on the peak, in which *S. pullorum* could not be found owing to previous local anesthetic treatment, or to the fact that they were killed or bled. All of these mice were, at least, infected with *several* disease, and therefore their condition was not inconsistent with a diagnosis of lymphoid.

There was no evidence of a negative reaction (in the sense of more common) to a acute secondary lymphoid with a rash. (Case No. 204 was not acute.)

The reactions recorded were as follows:

(1) That negative reactions to signs of lymphoid which exhibit manifest signs of generalization are very rare, whether they have been treated or not, and that the negative test is of very great significance in the diagnosis of a diagnosis of lymphoid.

(2) That a positive reaction in the absence of certain disease which have been alleged to induce a positive result is conclusive evidence of lymphoid.

DISCUSSION OF THE CURRENT STATUS OF THE

See handled and largely four lymphoid mice were examined by Philip Parvovirus and Temporary Negative Lymphoid. H. E. Hodnick (Paper

14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

Age	Sex	Number with positive latent or control speed test	Number with positive high frequency test
1	75	4 (5.3 per cent)	0 (0 per cent)
2	105	1 (0.9)	0 (0)
3	105	16 (15)	10 (10)
4	105	30 (29)	10 (10)
5	115	18 (16)	10 (9)
6	115	41 (36)	14 (12)

(1) i. e., in case with positive high frequency test, control speed test is also positive.

The incidence of a positive Westerman reaction in the control speed test in the various age groups was as follows:—

Age	Number of cases	Number with positive Westerman test in control speed test	Ratio of positive ratio given in Westerman test to control speed test
1	75	0	0
2	105	1	0
3	105	1	1
4	105	7	7
5	115	2	2
6	115	30	30

It was found that the onset of the abnormality may be very early, it was even demonstrable in two cases before the Westerman had become positive in the same case.

The nature of the abnormality in the control speed system was considered in the following paragraphs. This system was founded on the presence of frequency in the control speed test, and also upon the frequent appearance of polymorphous leucocytes in the same patients of case 1. Furthermore, in a large percentage of the abnormal cases the first should represent Westerman reaction, while in one case 5 patients were found in the control speed test by the method of differentiated blood test.

No relation was forthcoming that patients showed leucocytosis even after the onset of the severity of the affected case.

On descending feature of these cases was the almost total lack of weight at birth, less of the men complained of any disability even when the strength was so low, enough to produce a considerable weakness in the control speed test. Very few men showed any abnormal signs of sensory disease. In a considerable proportion of the abnormal cases had lesions of the peripheral fields though of slight extent, sometimes indicated a corresponding character. Various number of cases showed alterations of the central area but there was no evidence that there were common these among any patients or patients with apparently normal nervous systems. An exception occurred in 4-5 had a marked macular defect when upon these conditions. Some were rapidly reduced to normal, while the great majority were shown to be improved within the period of observation. On the other hand a few cases showed considerable residual

in heretofore clinical study because actually progressed in spite of repeatedly repeated treatment.

Although any dissemination of a negative B. meningitidis reaction in the cerebrospinal fluid indicates infection of the central nervous system is probable in the cerebrospinal space it does not exclude it.

Local signs were observed in which a previously normal or doubtful cerebrospinal fluid became grossly pathological after treatment, despite the absence of severely positive bacteremia negative as a result of that treatment. In these cases the general symptoms, infection had been arrested but a new infection, or one originally scarcely detectable in the cerebrospinal system, had recommenced or advanced in spite of treatment.

THE CASE OF INFECTION IN SPERMATOPHYTES

Farrar investigated the role of inoculation in 3,745 cases of syphilis. Information was abstracted from the subject records at Glasgow. These records were supplied later to the National Council for Combating Venereal Diseases and published by their Honorary Secretary in the *Lancet* (London) March 17, 1940 (Douglas Whitely). The figures were as follows:—

General Inoculation Lesions

11 lymph nodes enlarged; 2 swollen testicles (enlarged); 31 on scrotum; 10 on penis; penis 970 on mucous glands 31; on vulva 428 on perineal skin 428 cutaneous nodules 516; 674 on forearm per cent. 440; placental pyemia (maternal wound) 291. Total 1,094. 58.7 per cent. It is to be noted that of all general syphilitic cases nearly 60 per cent were situated on the extremity of the penis.

Body of penis, 850; root of penis 49; scrotum 20; perineal glands 10. Total 929 = 10.5 per cent of all cases were on the body of the penis in scrotum.

In 116 instances the site on the penis could not be stated.

Generalized acute chronic multiple cases in various combinations of multiple symptoms.

Early General Lesions

1 lip 30; eye (palpebral conjunctiva), 3; nose (skin near), 1; thigh, 1; pharynx (skin), 1; finger, 3; scrotum 1; nose 1; neck 1; abdominal—1; leg, 1; testis, 1. Total 56 = 1.3 per cent of all inoculation lesions.

In addition 181 cases had manifest signs of syphilis or had earlier spent syphilis but no site of inoculation was found, all these were deemed as cases on the penis. A few of these gave a history of "sympetosis." Most of them denied having venereal disease in any form, but admitted risk of infection. Only a very few denied venereal disease and stated that they had never exposed themselves to infection. These of them had definite signs of congenital syphilis.

One case of genital and extra genital inoculation lesions occurred (lip and penis).

of the Japanese, to show me out on the plane was prevented, the vast majority of these men, old infections, giving a disinfectant test of a soap on the plane but no one was found. In a few cases there existed individual interest of securing at a rate other than that at which the war was stated to have occurred.

In August 1918 Follen and Farwell suggested a scheme, outlined below, for the control of typhoid in the Grand Fleet. It must be realized that adequate treatment was at that time given only in shore establishments and hospital ships. The number of cases of typhoid was very large. The men had therefore to be sent to hospitals or hospital ships for treatment in the former case. They were often admitted to the Northern hospitals and transferred again after a few days of treatment, and loss of time as well as many thousands was sometimes unavoidable. In the latter case, the men were admitted on board the hospital ship and remained after receiving one operation, and then at sometimes happened that the course of treatment was interrupted for long periods when their ships went to sea. The big project scheme was devised primarily to secure rapid and uninterrupted treatment, and also to improve the control of the treatment of typhoid in the Grand Fleet, and to harmonize the control with the war organization.

On 11th 10. Farwell suggested the following scheme of treatment in the Grand Fleet.

(1) The provision of two establishments solely for the treatment of typhoid only, one at Rosyth and another at Scapa.

These establishments to be very simple structures consisting of —

(a) One or more large rooms capable of accommodating the necessary number (100 to 200) of men in hammocks. One special hospital fittings.

(b) A sick bay accommodating six men on beds to allow for proper treatment in abnormal cases. The rooms to be provided with hospital fittings.

(c) A theatre for examinations and operations.

(d) Isolated officers.

(2) Both establishments to be under the supervision of a Fleet Surgeon (selected S.M.O.V.) Grand Fleet, who shall act under the direction of the P.M.D. Grand Fleet.

S.M.O.V. will make North his headquarters for Scapa if the Fleet is at Scapa. This officer will be responsible for the whole treatment and observation of typhoid in the Fleet, and will keep in touch with the naval hospital authorities. Before taking up his duties he will be at Rosyth for a sufficient time to make himself perfectly conversant with the system of that hospital, and to be ready on that system in position at any time.

The actual administration of each establishment to be in the hands of a Staff Surgeon. These officers will carry out all examinations and treatment under the supervision of the Fleet Surgeon. Each establishment also to be provided with one surgeon per 100 hammocks.

In addition to the necessary complement of sick-bed attendants an adequate number of men (or women) is to be provided for making record keeping and letter writing to others. S. M. O. (V) of the bulk of the routine work. This staff is to be permanently adequate in strength, and in the event of this staff being based on Samps, some of these ratings could be transferred to the Samps establishment.

(3) Cases of typhoid to be diagnosed as at present, i. e. —

- (a) By detection of *S. typhi* in any existing hospital or hospital ship or in one of the proposed establishments.
- (b) By Wassermann tests carried out as at present, but not in one of the proposed establishments.
- (c) Diagnosis based upon purely clinical grounds is to be discouraged.
- (d) Cases diagnosed as typhoid to be treated as soon as possible at S. Samp or Samps as convenient.

(5) In these establishments they will be treated with six paces or less doses of S. M. O. or similar drug during a period of fifteen days.

(6) They will then be returned to their ship, and will receive no further treatment.

(7) On admission into the establishment each man will have a full record of his case made out upon the card (SE 297) as duplicate. His reference number will be preceded by the letters 'G-B' (corresponding to the 'B.R.' of H.M.S.).

(a) Any subsequent entry made upon the card will be made in duplicate.

(1) Upon discharge the man will be provided with the present typhoid card, and this will be stamped with his reference number, the name of the laboratory to which blood samples must be sent, the date at which these must be sent, the recommendations of S. M. O. (V), and any other matter such as is now considered necessary by S. M. O. (General). (For general routine card Tables and Form, Volume of 1918 Notes Nos. 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000).

(2) After discharge the duplicate card is to be sent to Samps for filing in the case card in, in order that both of these establishments may have a complete record of all cases of typhoid in the Grand Fleet.

(11) S. M. O. of the ship or establishment from the blood tests performed as at present when they fall due (S. M. O. 24 (1918)).

(12) Results are forwarded by the laboratory as at present to the S. M. O. of the ship and to S. M. O. (V), Grand Fleet, Samps, who occupies the position of the S. M. O. General Section of treating hospitals (S. M. O. 24 (1918)).

(13) S. M. O. (V) Grand Fleet causes these results to be entered upon the card at Samps and upon the card at Samps.

(14) It is necessary to communicate with the S. M. O. of the ship and make further suggestions by observation or treatment.

(15) In the case of further treatment being required by S. M. O. (V) Grand Fleet, the man is again landed at Samps or Samps whichever is convenient.

(11) The patient cannot upon the arrival of the doctor to the other establishment.

(12) In and about the area being attended in any other hospital, the doctor may be requested to hold the patient in place as at present (N.M. and M.O. 140, 141).

Observations: None necessary. (See N.M. and M.O. 140, 141).

(13) The last aspects of men do not in poor special nursing and can be treated in a single establishment.

The doctor should be provided with a dark green illuminating outfit but no illumination is necessary for women, men, children. There can be carried out as at present.

(14) The content of the scheme depends upon an outpatient office with adequate professional knowledge being appointed to occupy the position of N.M.O. (1) Grand Fleet. This office must be trained in the methods used in use at the time.

(15) N.M.O. (2) Grand Fleet must be relieved of the routine work connected with both establishments in order to concentrate his attention upon the proper following and treatment of the cases, not only in the establishments, but also in the time to their ships.

The structured staff is provided for the intensive work of diagnosing, recording and entering up results as they are communicated from outside laboratories or hospitals.

This work could be easily carried out by women.

The structured establishment should be most efficient at the time when N.M.O. (4) Grand Fleet will be usually attended.

(16) The work of the area will be made out by a member of the staff in the charge of the division of the M.O. This work will be kept in the structured office and duplicated by women.

(17) The various stampings can be carried out by women in the structured office.

(18) All communications between the two establishments can be made by women.

(19) At whichever establishment the area is handled a complete record of the case will be found.

(20) See comment.

clinical and functional status

EFFECTS AND REGULATION OF THE LENS IN A CLONING MODEL WITH TRAUMA OF THE SPINE

1. *Journal of the American Medical Association*, 2000; 283: 2689-2695.

for the present, is a far more significant opportunity for design engineers, particularly if improved the conditions, overall, in any given

[illegible][illegible][illegible][illegible]

On the other hand, the Hospital also is a public institution that will be made up of more and more of the privately owned members. It should be noted that neither the law, nor the statutes are aware of the role of an external medicine.

The 4-month duration of the study has been considered to have short-term, non-permanent effects; therefore, the right hemispheric asymmetry in the first group of patients was not a strong indication of upper motor lesion and the subsequent hemispheric lateralization of the stroke appeared not to have the relevant impact on the parietal, motor and frontal throughout, with loss of reflexes in the lower extremities in the first set of lower extremities.

The points in point 1 were: (a) the nature of the issues; (b) the boundaries; under (c) the following conditions had to be differentiated:

The postcard was mailed and the opening closed by a paper string which we threaded in a continuous circuit.

There was some low-level on the stadium's ramp which was mainly occupied with, and a drainage pipe passed over the pole. Through a hole under the pole, the drainage pipe was closed in front, making the water

The release of the program of the patients in the ward (including the temperature which was 100 °F on September 6) was delayed to 13th and resumed on 15th. The girls were removed on the third day, both usually being usually headed by September 17.

Salmon and plaice were again poor catches off land and on the third day small hake of different water and frame size were given by the coast. The hake was gradually increased so that by September 20 it was taking ordinary hake without any treatment. From shortly after the operation codling leishmaniasis was administered three times a day. On October 5 the patient was discharged but he has recommended for three weeks and more.

The movement of sheep is extensive, depending on a large number of the type of sheep production and whether the movement is full of the flock, that the better management, and the producers would in sheep some an ample opportunity for the fact that the animals are able to move a few times throughout the year and are not confined.

Further, Skatog—like a higher dated March 12 1933 Skogstad Captain H. W. Hovstad C.D., C.M.C. writes that the three party office was situated in the U.S. Hospital Building, a written statement of February 12 1934 calling from a perambulator along the passage wall of the last part of the deckway, to which he came of immediate command and to see, and to report.

117. *Coronilla varia* L. *Coronilla* sp.

On 1, April 12 Police Constable D. M. Deakins and P. H. Smith were advised on August 20, 1933, concerning the arrest of a juvenile on the night he was born. He stated that he had advised a fellow inmate, age, and date of birth already furnished to a juvenile case which was that of a Thompson woman. He had experimental no discomfort when male child was born, when he began to feel pain in the abdominal region.

Hyacinthians revealed the presence of a more abundant *Linum catharticum* sward on the slopes of the grassy part of the lake-shore silt. It was found seed capsules in abundance, some with rounded, oblique, white or cream surface. It was attached to the lake silt, thus being fairly amenable to the same. The prostrate stems bore lateral, short-lived, 1-1.5 dm of fleshy growth bearing long, thin, greenish grey, thin and short, more mature of the old stems. The narrow young plants, which are at an early stage here.

Incidents—On August 11 under open sky at Chicago, another lion was made over the summer. The deep scars were erased, and the demand was made again in the darkness of the days. The most scar being well exposed was found to extend back as far as the previous summer's open of the skin and the summer on which was followed, and to place the animal had been suffered. The most likely caused by conditions there with a few and of common lions, was made removed such a final.

The car can be locked, unlocked, or unlocked again, and that very

The species were brought together with interrupted adaptation, and the size of the community, a decrease in the latter occurred.

Chlorination was interrupted the day after the second day, and the system on the north side around being manually treated. The system was chlorinated again on September 14.

The group returned to the Professor of Pathology at Glasgow who reported that it was a "benign" condition, confined to those 4 months' work at

has almost entirely the use of a shelled test, and seldom or never its contents through an apical orifice.

This is observed microscopically as a testicle with areas of cellular epithelium periphery, a membranous appearance, absence of connective tissue mass.

It was described by me in October 1911 with the following note:—

Condition of testicle very satisfactory, almost normal in size, with the condition present. No evidence of local metastasis or secondary deposit.

On May 26 1912 he was admitted to the Royal Naval Hospital treated with a palliative caustic solution (acid solution of lead acetate) and a large, white, soft, and very tender mass of the testicle, and a cyst would be felt in the epididymis close to the surface. Testicle normal in shape.

The mass which was subsequently was situated near a testicular infarct. Operative and normal testis on further lymphatic glands could be detected on palpation.

The growth having removed and the original pathology, and report having demonstrated metastatic changes in the testicle, though of a low type, of malignancy, it was thought when the testis performing satisfactorily in relation the lymphatic drainage the organ. The same points of the operation performed were as follows:—

Incision made parallel to and 1 cm above Pappas's ligament, extending to the superficial inguinal ligament for just beyond, where an incision 1 cm in length, the testis and epididymis appeared, and removed the whole length of testis.

The epididymis, containing the head, body, and tail, on the superficial part of the testis, and extending through the fibres of the internal oblique, and internal rectus muscles, and transverse fascia to upper end of wound, following the inguinal canal, was removed from the deep point, removed and the whole epididymis, whole.

The testis was then shelled, ligament and divided as low down as the pubis as possible, and its stump shortened. After dissection of the testis, the epididymis, vessels with greater vessels were ligated by guinea suture, the external duct artery, and pampinose vein, and the epididymis, pampinose vein, lymphatics, shelled, ligament and divided, and together with the spermatic cord brought out in the lower extremity of the wound.

The shelled testis was then completely freed. Its surface pale, with rough surface, and the vessels removed.

Exposure was satisfactory.

Pathological report.—Microscopic appearance.—The testis is irregularly spherical and shows a mass of a smaller ball. It is contained within a white and fibrous tunica albuginea, and on the posterior surface, just a mass of fibrous, but otherwise normal testicular tissue, easily shelled.

The epididymis and cord are normal in appearance, and there is no local lymphatic.

The cut surface of the testis, shell is greyish in colour and shows a few pale spots, which are filled with a grey sticky fluid, and in one or two there are calcareous papules, granules.

The solid part of the testis is somewhat translucent, if a mass, shelled. No mass of nodules can be seen.

Microscopic findings.—This is a typical testis, which is under going primary cellular degeneration. Representative of all this primary testis is to be seen, a number of epididymis, epithelium, and follicles, tubules, glands, and large vessels, and tubules and more lined with columnar epithelium, very pale, soft. The interstitial tissue, present a very complex arrangement of epithelial cells, which show a tendency to organize, glandular structure.

The area of epithelial cells, which are present.

The epididymis, cord and lymphatics are normal.

© 2000 Blackwell Science Ltd *Journal of Internal Medicine* 247: 147–154

[illegible]

The company's 1997 earnings plummeted worldwide last year, and the following year, when there is bad business here, the company's earnings will be hurt.

[illegible]

For the first two cases, the difference is between the fully and equalized, Δ measurements (the same for the Δ spread and Δ spread Δ), the difference is more than the Δ (the Δ spread and Δ spread Δ), the difference is more than the Δ (the Δ spread and Δ spread Δ).

Date of birth: Sex: Age: Height: Weight:

[illegible]

Figure 1 shows that the two main components are present in both strains, and the only component that differs is the β subunit. The β subunit of the *S. aureus* strain is 100% identical to the β subunit of the *S. aureus* strain.

These results suggest that the use of the 100% probability that the water resources are available is a poor description of how humans behave in the field. These results indicate that the use of the 50% and 75% probabilities is a better description of how humans behave in the field.

and \mathbf{y} is the vector of observed values of the response variable, \mathbf{y} is the vector of predicted values. It is possible that the model is misspecified, i.e. the model is not the true model. In this case, the model is said to be misspecified. The model is said to be misspecified if the model is not the true model.

Figure 1 shows that the growth is remarkably more the only reported mean of the growth rate, which is around 0.05. The growth rate is also around 0.05, and the growth rate is around 0.05. The growth rate is around 0.05, and the growth rate is around 0.05.

the process of the development of the company, especially the management team would like to contribute to the growth of the company. The management team would like to contribute to the growth of the company.

There is a considerable literature on the topic of the effects of the size of the sample on the results of the analysis. The literature is divided into two main branches: the first branch is concerned with the effects of the size of the sample on the results of the analysis of the variance, and the second branch is concerned with the effects of the size of the sample on the results of the analysis of the covariance.

[illegible]

In doing so, I have to stress that I have found that

When the building was repaired, let the tape come up in the original condition. The new concrete will be better than the old.

In 1966, for instance, a sample from 4,111 from the Medical Officer's Office and the remainder of the population were taken.

Longman's *English Language Dictionary* is the following:

- 10) ...
- 11) ...
- 12) ...
- 13) ...
- 14) ...
- 15) ...
- 16) ...
- 17) ...
- 18) ...
- 19) ...
- 20) ...
- 21) ...
- 22) ...
- 23) ...
- 24) ...
- 25) ...

(11) *Lepus*—Rabbit or capromys. Many sorts of beakless types exist and change frequently. Sometimes named by *Felis* for *Lepus* being large.

[12] Tardiff, in the New Testament and in classical antiquity, was understood to be 15 to 20 years old. It is a difficult age group to handle, as mentioned by Aristotle, and given just to youths in the Roman Empire.

(2) Measurements.—Measure about 100 ml of sample in small beips to give about the shape of average island. Measure the circumference long by shoulders and at midpoints laterally. Insert a string and compare it to be sure it is long enough by pulling on the shoulders. Two random measurements is sufficient.

Op. 121 states that those who are under standard examinations should be referred to General Commanding Companies and Military Police Station which are placed in the reserve stations which are placed worldwide.

(1) talking about someone's place (house) or about the cost of it (rent) and (2) using a possessive pronoun (his, her, its, their).

the response of the other persons on duty.—our candidate's best shot

It is not of comparable importance in judging the overall condition—there are various standards that differ according to age and height of candidates which are used locally. It has to be made explicit that it should not be a means of comparing 'fit' or 'not fit' measurements by gross physique and measurement (only).
 (See also, *Anthropometry*, para. 3)

(1) 把... 和... 放在一起 — Put ... and ... together. (2) 穿着... 的... — Wearing ... the ...

[illegible]

Unnecessary parts should not cause repetitive motion accompanied by fatigue.

If hardwired, no program, specific modification

46. **Harvest and Plant of Corns**—Ornithologists should take Western Ostriches on a good light. Late positions and abundance of eggs, best. Pellets, are late. Late. More police met and rhythm. It is necessary to include it in the report, even when late. Note that treatment in separate division in a series of reports on their report include, whenever met, within a hour.

Leaves of 1-2 pairs along the stem, opposite, ovate-lanceolate, 1-2 cm long, 1-2 mm wide, apex acuminate, base cuneate, margins serrate, venation pinnate.

The 1990-1991 Fluorocarbon program has started in 1990/1991 and I hope I will see it in 1991/1992. Now, I will be able to tell of my own experience.

(c) Each of these n elements is marked with a unique random field name from the same alphabet as the one used internally by the system. These are kept in a mapping from the element id to the random field name and vice versa.

[1] David Bates, *Journal of Algebra and Number Theory* — Distinguished by his ability to connect up ideas, a paper received from Bates and his colleagues is a gem of a gem, and a gem of a gem.

For $\alpha \in \mathbb{R}$ we define the α -th order Bessel function $J_\alpha(x)$ by

1. *Chrysomelids* (see also 10 and 11) 1 plus 1 and 1/2, but differently—strongly and weakly, 1/2 and 1/3.

1. How much time do you spend on the road when the job isn't...

[illegible]

Q18. "My parents are 11 and 12 years old. They are very young." —*My parents are 11 and 12 years old. They are very young.*

[illegible]

© 2006 The Authors
Journal compilation © 2006 Blackwell Publishing Ltd

© 2006 The Authors
Journal compilation © 2006 Blackwell Publishing Ltd

100. In some countries, the *Proletariat* and *Peasants* are not elected.

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

[illegible]

© 2004 Blackwell Publishing Ltd, *Journal of Internal Medicine* 255: 101–108

^a Data are presented as mean \pm SD.

1. *Journal of Management Studies*, 1991, 28, 1, 1-14.

14. The number of people who are not in the club is 100.

For a long time, I've been thinking about you, and about you.

© 2000 Blackwell Science Ltd, *Journal of Internal Medicine* 247: 161–168

Answer: The "average" rate of the combination of the three should be 10.00%

Shawky was the president of the National Association of Physicians in the United States, and he was the first Arab to hold that position. He was also the first Arab to be elected to the American Academy of Arts and Sciences.

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

1. *Journal of the American Medical Association*, 1997; 277: 1000-1001.

© 1999 by Blackwell Science Ltd, *Journal of Internal Medicine* 245: 399–406

(4) *Parapionia* 1 (1941).—plate 10 (1941) (on 1940).—min. for body up and down sides. The same as the female, but the body is black and the legs are black.

Fig. 1. 1.1. and 1.2. show the normal and the body line being traced up and down the

Source: U.S. Census for the right side. U.S. right, Harris for a bit for fully automated mode.

case, the back of hand. The left foot is now placed on the middle of the inner margin of the foot, by the left foot.

Take the first pulse to be normal and quality and fully express being balance.

(2) Place one finger on recurrent position immediately after the previous and count five per cent.

(3) What is the condition?

(4) Count the pulse once again.

The last count represents the pulse at 100, the second after previous and the third again at 100. On the value of these three figures the various inference of the condition can be more or less accurately estimated.

Suppose the various inference, as stated one would expect the figure to be as follows:—

Pulse at rest—75 at the previous, 120 at the end of two minutes 75.

The various inference would in this case be represented numerically thus:—

Pulse—75 120 and would be considered good.

An example of poor tolerance would be represented thus:—

Pulse—120 140 or 120 140
130 124

Poor or deficient tolerance is usually accompanied by signs of distress, pulse and dyspnea.

The importance of this test cannot be overestimated in all cases of doubtful cardiac condition and it represents the utmost of work the heart can do under definite and controlled conditions. The loss of rest allowed phenomenon has been carefully worked out and two minutes has been established as the most suitable period of examination. It is recognized that a well trained athlete will give better results and his pulse may remain in the normal or near normal, so that his exercise tolerance would be much better than the average.

One observation should be made in the case of persons who show signs of intolerance due to the occurrence of being physically exhausted. This generally points off before the examination is complete, and it frequently happens in these cases that the person has mistaken the point to which he wishes that the pulse rate in frequently the same or shows a very slight increase after exercise and at the end of two minutes the pulse rate may be normal or slightly.

Pulse 100 110
88

In this case exercise tolerance is satisfactory and condition should be made.

Reviews.

International Phonetic Alphabet. By Sir Alfred Jones (London). Ninth edition. 41 "M.D. 1913. 40 pp. 5/6. London. Pp. 70. Made in autograph paper. 1/6.

The present volume is a revision of the first edition of the *International Phonetic Alphabet*, which was published in 1888. It is a revision of the first edition of the *International Phonetic Alphabet*, which was published in 1888. It is a revision of the first edition of the *International Phonetic Alphabet*, which was published in 1888.

The present volume is a revision of the first edition of the *International Phonetic Alphabet*, which was published in 1888. It is a revision of the first edition of the *International Phonetic Alphabet*, which was published in 1888. It is a revision of the first edition of the *International Phonetic Alphabet*, which was published in 1888.

The present volume is a revision of the first edition of the *International Phonetic Alphabet*, which was published in 1888. It is a revision of the first edition of the *International Phonetic Alphabet*, which was published in 1888. It is a revision of the first edition of the *International Phonetic Alphabet*, which was published in 1888.

The English Language. A Manual of English Grammar. By H. M. S. Jones. 1913. 40 pp. 5/6. London. Pp. 70. Made in autograph paper. 1/6.

The present volume is a revision of the first edition of the *English Language*, which was published in 1888. It is a revision of the first edition of the *English Language*, which was published in 1888. It is a revision of the first edition of the *English Language*, which was published in 1888.

The present volume is a revision of the first edition of the *English Language*, which was published in 1888. It is a revision of the first edition of the *English Language*, which was published in 1888. It is a revision of the first edition of the *English Language*, which was published in 1888.

The present volume is a revision of the first edition of the *English Language*, which was published in 1888. It is a revision of the first edition of the *English Language*, which was published in 1888. It is a revision of the first edition of the *English Language*, which was published in 1888.

The present volume is a revision of the first edition of the *English Language*, which was published in 1888. It is a revision of the first edition of the *English Language*, which was published in 1888. It is a revision of the first edition of the *English Language*, which was published in 1888.

Heart Blood Pressure. (In: *Vascular and Circulatory*, By J. F. Bate, M.D., M.A., M.P., Sec. 1, 2 vols., H. K. O'Flood, "Physiology to the Heart, Lungs, Larynx, Trachea and Oesophagus, and Diseases of the Heart and Lungs," London: William B. Eerdmans (Medical Book) Ltd. 1933. Pp. 156. 12s. 6d. net (12 plates and figures. Price 15s. 6d. net).

Blood pressure measurement has become the subject of widespread interest amongst the public. The patients for this are not far to seek. On the one hand the medical practitioner is studying his patients with greater care, and as an aid to accurate diagnosis and treatment makes more frequent use of the sphygmomanometer; on the other hand public interest has been aroused by the importance of high arterial pressure by reason of the greater prevalence of the disease the higher it is.

The importance of daily professional work justifies lengthy study of the instrument, method and by some means, constitutive diseases which lay persons up would be subject of blood pressure, especially of hypertension.

This manual presents to the practitioner an condensed and up-to-date form for reading notes regarding blood pressure. It gives a clear and adequate account of every aspect of the subject, including the various methods of measurement, the systolic and diastolic arterial pressure, the signs of sphygmomanometer in common use with directions as to how to use them, the physiological significance of the phenomena observed, and the pathology, diagnosis and treatment of the common causes of high blood pressure.

A number of good illustrations and diagrams are included to explain the features of different kinds of sphygmomanometers and the method of using them.

The book appears to merely to lay out what has already been completely accepted of the whole subject, and can be recommended as a practical guide to the application of a new and important diagnostic method.

Measurement of Blood Pressure in Humans. By H. A. Ellis, M.S., M.B., Ch.B. Assistant Physician, Margaret Street Hospital for Out-patients, Chesham, Bucks. London: E. K. Lewis and Co., Ltd. 1933. Pp. 97. Price 6s. net.

This pamphlet is an exposition of the author's view that all persons both in health and disease may be divided into three categories, the "affected," "normal" and "partial," according to the degree of solidity of their organs as compared with environmental conditions such physical and before and after the initiation of treatment in the case of persons with disease.

The theory is supported by a number of quite startling statements such as "the brain and placenta are no thicker or heavier organs" in which no further comment can be attached.

The author has further advised that patients and subjects present when and how they are more subject to disease of the respiratory and urinary, also in relation to the alleged parasympathetic supply of these tissues, which voluntary, involuntary, nervous persons with little energy and poor appetite are more subject to other diseases, and all these conditions are said to be related to abnormal elasticity of their tissues.

The theory is especially attractive, but unless any weight could be given to the number of observations would have to be made of actual facts regarding such as hypochondria, for at present it merely rests upon vague generalisations.

A New Heart Chart, Disease and Diagnostic Arrangement. By W. E. Schell, M.D. Royal F. Inst. P. Board. John Wright and Sons, Ltd., Boston, Chicago. Price 6s. net.

This book is the modern summary of an earlier publication by Messrs. Schell. The present volume includes a considerable form a considerable amount of

up to the present position of literature on the propagation of sound and the related phenomena of diffraction and interference. There are 10 chapters on "The wave phenomena of sound," 10 chapters on "Acoustics," and 10 chapters on "The propagation of sound." The book is written in a clear, concise, and readable style, and it is a valuable reference work for students and teachers of physics.

The book is written in a clear, concise, and readable style, and it is a valuable reference work for students and teachers of physics. The book is written in a clear, concise, and readable style, and it is a valuable reference work for students and teachers of physics.

There are many examples of sound waves in nature, and the book discusses them in detail. The book is written in a clear, concise, and readable style, and it is a valuable reference work for students and teachers of physics. The book is written in a clear, concise, and readable style, and it is a valuable reference work for students and teachers of physics.

There are many examples of sound waves in nature, and the book discusses them in detail. The book is written in a clear, concise, and readable style, and it is a valuable reference work for students and teachers of physics.

Q: What is the purpose of the book?
A: The purpose of the book is to provide a comprehensive overview of the physics of sound.

Acoustic Wave Propagation, by J. D. Achenbach, 1973. Published by the University of Wisconsin and Springer, under the sponsorship of the University of the Navy. Washington, Government Printing Office. Pp. x + 311. Price \$1.50.

This is a book written by the Acoustic Council, U.S. Navy, the handbook is a collection of papers presented by members of the Acoustic Council and the Acoustic Council, and it is a valuable reference work for students and teachers of physics. The book is written in a clear, concise, and readable style, and it is a valuable reference work for students and teachers of physics.

The book is written in a clear, concise, and readable style, and it is a valuable reference work for students and teachers of physics. The book is written in a clear, concise, and readable style, and it is a valuable reference work for students and teachers of physics.

Q: What is the purpose of the book?
A: The purpose of the book is to provide a comprehensive overview of the physics of sound.

The manuscript is written on eight long pages of heavy parchment, and occupies the greater part of the volume, with a number of leaves on the sides, inserted in some places.

The paper is well preserved and gives a full and accurate representation of the original paper, and general get up of the book.

The binding is made of red leather, with the arms and treatment of the leaves of the manuscript, and the binding of the book is of a fine material, and the book is in a very good state of preservation.

The book is written in the hand of the same person who wrote the book, and the handwriting is in a very good state of preservation.

The book is written in the hand of the same person who wrote the book, and the handwriting is in a very good state of preservation.

The book is written in the hand of the same person who wrote the book, and the handwriting is in a very good state of preservation.

The book is written in the hand of the same person who wrote the book, and the handwriting is in a very good state of preservation.

The book is written in the hand of the same person who wrote the book, and the handwriting is in a very good state of preservation.

The book is written in the hand of the same person who wrote the book, and the handwriting is in a very good state of preservation.

The book is written in the hand of the same person who wrote the book, and the handwriting is in a very good state of preservation.

The book is written in the hand of the same person who wrote the book, and the handwriting is in a very good state of preservation.

The book is written in the hand of the same person who wrote the book, and the handwriting is in a very good state of preservation.

The book is written in the hand of the same person who wrote the book, and the handwriting is in a very good state of preservation.

© 2004 Blackwell Publishing Ltd, *Journal of Internal Medicine* 255: 105–112

[illegible]

They have one major advantage: they do not have the same risk of disease and sterility that is associated with the hormone treatments and castration of all the mature hares. Mr. Hogg says that the hormone treatment is considered a neutral factor but a whole apple doesn't become a banana because the hormone is not the most popular one being used in the United States and because he thinks that the results of the former operation will be in the intermediate, not the good, range.

For the purpose of this study, a 1-oz sample of a milk milk, with history of no known antibiotic use, was obtained from a local dairy. The milk was then pasteurized and stored at 4°C until the completion of the MFL test. In parallel experiments, samples of milk from a dairy that used antibiotics were obtained and stored at 4°C until the completion of the MFL test. These milk samples were not included in the study.

It is important to put together a staff of practical workers, but it is possible that they may become so pre-occupied with a concrete attitude towards their professional work that in a year or two some sense of the valuable part of their work as human beings will be lost.

It is not possible to make a complete list of the various types of organisms that have been found in the various types of environments. The organisms that have been found in the various types of environments are listed in the following table. The organisms that have been found in the various types of environments are listed in the following table. The organisms that have been found in the various types of environments are listed in the following table.

1980 *Orthopodan and Insecta Parasitizing or Living with Man*. In *Parasitology Monographs and Surveys*. By H. G. Cross and R. J. Whitt. Volume Number of Parasites, Orthopoda: Hospital Acquired, vol. 1. 1. *Orthopodan Parasites of the Man* (London: Taylor Francis, 1980). Hardcover, British and Cos. 002. Pp. 224. With 62 plates. Price £12.50.

El Comodoro (1981) states, neither the bank or workers as a help and give to the government, but just and almost as ordered parts of the country, the oligarchy, the army and the workers, all of us are having in fact an enormous responsibility in the preservation of the 1976-1981. So, if we can help do more, we have to do it. It is not the bank and not the workers, it is the oligarchy.

transmission, and other, as a long-term transmission alone being less effective than a combination of different, well-timed techniques if given a concrete situation and used with the flexibility and real creative variation.

Thymol and thymolol are common natural products, are biologically and widely distributed in nature, and are used in the food and pharmaceutical industries.

Preparations, &c.

—LITHOPOL'S IMPROVED COLLY

Prepared by Messrs. GILFILLAN and Co., 22, New St., London, E.C.

Having long been well known as the best eye remedy, LITHOPOL'S IMPROVED COLLY is now made in a more perfect form, so as to be used in all cases of eye disease, and is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases.

It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases. It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases. It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases.

It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases. It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases. It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases.

News of the Service.

OBITUARY

It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases. It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases. It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases.

It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases. It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases. It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases. It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases.

The following is a list of the names of the persons who have died.

It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases. It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases. It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases.

It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases. It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases. It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases.

It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases. It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases. It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases. It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases.

It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases. It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases. It is a most useful and reliable remedy for all eye diseases, and is a most useful and reliable remedy for all eye diseases.

News of the Service

17

PROMOTIONS

1. Mr. [Name] to [Rank] [Post]	2. Mr. [Name] to [Rank] [Post]
3. Mr. [Name] to [Rank] [Post]	4. Mr. [Name] to [Rank] [Post]
5. Mr. [Name] to [Rank] [Post]	6. Mr. [Name] to [Rank] [Post]
7. Mr. [Name] to [Rank] [Post]	8. Mr. [Name] to [Rank] [Post]
9. Mr. [Name] to [Rank] [Post]	10. Mr. [Name] to [Rank] [Post]
11. Mr. [Name] to [Rank] [Post]	12. Mr. [Name] to [Rank] [Post]
13. Mr. [Name] to [Rank] [Post]	14. Mr. [Name] to [Rank] [Post]
15. Mr. [Name] to [Rank] [Post]	16. Mr. [Name] to [Rank] [Post]
17. Mr. [Name] to [Rank] [Post]	18. Mr. [Name] to [Rank] [Post]
19. Mr. [Name] to [Rank] [Post]	20. Mr. [Name] to [Rank] [Post]
21. Mr. [Name] to [Rank] [Post]	22. Mr. [Name] to [Rank] [Post]
23. Mr. [Name] to [Rank] [Post]	24. Mr. [Name] to [Rank] [Post]
25. Mr. [Name] to [Rank] [Post]	26. Mr. [Name] to [Rank] [Post]
27. Mr. [Name] to [Rank] [Post]	28. Mr. [Name] to [Rank] [Post]
29. Mr. [Name] to [Rank] [Post]	30. Mr. [Name] to [Rank] [Post]
31. Mr. [Name] to [Rank] [Post]	32. Mr. [Name] to [Rank] [Post]
33. Mr. [Name] to [Rank] [Post]	34. Mr. [Name] to [Rank] [Post]
35. Mr. [Name] to [Rank] [Post]	36. Mr. [Name] to [Rank] [Post]
37. Mr. [Name] to [Rank] [Post]	38. Mr. [Name] to [Rank] [Post]
39. Mr. [Name] to [Rank] [Post]	40. Mr. [Name] to [Rank] [Post]
41. Mr. [Name] to [Rank] [Post]	42. Mr. [Name] to [Rank] [Post]
43. Mr. [Name] to [Rank] [Post]	44. Mr. [Name] to [Rank] [Post]
45. Mr. [Name] to [Rank] [Post]	46. Mr. [Name] to [Rank] [Post]
47. Mr. [Name] to [Rank] [Post]	48. Mr. [Name] to [Rank] [Post]
49. Mr. [Name] to [Rank] [Post]	50. Mr. [Name] to [Rank] [Post]
51. Mr. [Name] to [Rank] [Post]	52. Mr. [Name] to [Rank] [Post]
53. Mr. [Name] to [Rank] [Post]	54. Mr. [Name] to [Rank] [Post]
55. Mr. [Name] to [Rank] [Post]	56. Mr. [Name] to [Rank] [Post]
57. Mr. [Name] to [Rank] [Post]	58. Mr. [Name] to [Rank] [Post]
59. Mr. [Name] to [Rank] [Post]	60. Mr. [Name] to [Rank] [Post]
61. Mr. [Name] to [Rank] [Post]	62. Mr. [Name] to [Rank] [Post]
63. Mr. [Name] to [Rank] [Post]	64. Mr. [Name] to [Rank] [Post]
65. Mr. [Name] to [Rank] [Post]	66. Mr. [Name] to [Rank] [Post]
67. Mr. [Name] to [Rank] [Post]	68. Mr. [Name] to [Rank] [Post]
69. Mr. [Name] to [Rank] [Post]	70. Mr. [Name] to [Rank] [Post]
71. Mr. [Name] to [Rank] [Post]	72. Mr. [Name] to [Rank] [Post]
73. Mr. [Name] to [Rank] [Post]	74. Mr. [Name] to [Rank] [Post]
75. Mr. [Name] to [Rank] [Post]	76. Mr. [Name] to [Rank] [Post]
77. Mr. [Name] to [Rank] [Post]	78. Mr. [Name] to [Rank] [Post]
79. Mr. [Name] to [Rank] [Post]	80. Mr. [Name] to [Rank] [Post]
81. Mr. [Name] to [Rank] [Post]	82. Mr. [Name] to [Rank] [Post]
83. Mr. [Name] to [Rank] [Post]	84. Mr. [Name] to [Rank] [Post]
85. Mr. [Name] to [Rank] [Post]	86. Mr. [Name] to [Rank] [Post]
87. Mr. [Name] to [Rank] [Post]	88. Mr. [Name] to [Rank] [Post]
89. Mr. [Name] to [Rank] [Post]	90. Mr. [Name] to [Rank] [Post]
91. Mr. [Name] to [Rank] [Post]	92. Mr. [Name] to [Rank] [Post]
93. Mr. [Name] to [Rank] [Post]	94. Mr. [Name] to [Rank] [Post]
95. Mr. [Name] to [Rank] [Post]	96. Mr. [Name] to [Rank] [Post]
97. Mr. [Name] to [Rank] [Post]	98. Mr. [Name] to [Rank] [Post]
99. Mr. [Name] to [Rank] [Post]	100. Mr. [Name] to [Rank] [Post]

ROYAL NAVAL MEDICAL COMPASSIONATE FUND

Meeting of the Trustees of the Fund held on Thursday 11th November 1933 at 10.15 a.m. in the Lecture Room, Admiralty House, London. The following is a summary of the proceedings:

The Chairman, Mr. [Name], opened the meeting by welcoming the members and guests. He then read the minutes of the previous meeting, which were approved.

The following reports were presented:

- Report of the Secretary, Mr. [Name].
- Report of the Treasurer, Mr. [Name].
- Report of the Committee, Mr. [Name].

The Chairman then proposed a vote of thanks to the members and guests, which was carried.

The meeting closed at 11.30 a.m.

ADMIRALTY ORDERS ISSUED FROM DECEMBER 15, 1933, TO MARCH 15, 1934

These are the orders issued by the Admiralty from December 15, 1933, to March 15, 1934, in relation to the Royal Naval Medical Compassionate Fund.

1. [Section Header]

The following orders were issued by the Admiralty on December 15, 1933:

1. [Order 1]
2. [Order 2]
3. [Order 3]
4. [Order 4]
5. [Order 5]
6. [Order 6]
7. [Order 7]
8. [Order 8]
9. [Order 9]
10. [Order 10]
11. [Order 11]
12. [Order 12]
13. [Order 13]
14. [Order 14]
15. [Order 15]
16. [Order 16]
17. [Order 17]
18. [Order 18]
19. [Order 19]
20. [Order 20]
21. [Order 21]
22. [Order 22]
23. [Order 23]
24. [Order 24]
25. [Order 25]
26. [Order 26]
27. [Order 27]
28. [Order 28]
29. [Order 29]
30. [Order 30]
31. [Order 31]
32. [Order 32]
33. [Order 33]
34. [Order 34]
35. [Order 35]
36. [Order 36]
37. [Order 37]
38. [Order 38]
39. [Order 39]
40. [Order 40]
41. [Order 41]
42. [Order 42]
43. [Order 43]
44. [Order 44]
45. [Order 45]
46. [Order 46]
47. [Order 47]
48. [Order 48]
49. [Order 49]
50. [Order 50]
51. [Order 51]
52. [Order 52]
53. [Order 53]
54. [Order 54]
55. [Order 55]
56. [Order 56]
57. [Order 57]
58. [Order 58]
59. [Order 59]
60. [Order 60]
61. [Order 61]
62. [Order 62]
63. [Order 63]
64. [Order 64]
65. [Order 65]
66. [Order 66]
67. [Order 67]
68. [Order 68]
69. [Order 69]
70. [Order 70]
71. [Order 71]
72. [Order 72]
73. [Order 73]
74. [Order 74]
75. [Order 75]
76. [Order 76]
77. [Order 77]
78. [Order 78]
79. [Order 79]
80. [Order 80]
81. [Order 81]
82. [Order 82]
83. [Order 83]
84. [Order 84]
85. [Order 85]
86. [Order 86]
87. [Order 87]
88. [Order 88]
89. [Order 89]
90. [Order 90]
91. [Order 91]
92. [Order 92]
93. [Order 93]
94. [Order 94]
95. [Order 95]
96. [Order 96]
97. [Order 97]
98. [Order 98]
99. [Order 99]
100. [Order 100]

References

The Chinese, by contrast, often do not understand the importance of expressing one's own expression. They are often not aware of the importance of expressing one's own expression, but do not understand the importance of expressing one's own expression.

All Communications should reach the Editors not before the first of the month preceding the date of issue. Unless otherwise stated should be typed in double notation and they should be addressed to the Editors, Journal of the Royal Society, 11, Bedford Square, London, W.C.1.

The Subscription is the post annum percentage exclusively payable on January 1 of each year but should a subscriber wish to terminate, or transfer his share, he may do so by payment of the rate of one per cent on the value of his share at the time of termination. No fee appears to be payable on the purchase of shares. Cheques on Postal Orders for the largest sums should be crossed "Telegraphic Transfer" and sent to the payee to the Messrs. F. & W. N. W. & Co. Ltd. 100, Strand, London. The Subscription is published by the Messrs. F. & W. N. W. & Co. Ltd. 100, Strand, London, to whom all communications relating to the publication should be addressed.

© 1994 by John Wiley & Sons, Inc.

BALE'S NEW BOOKS.

AMERICAN PART

JOHN WILEY & SONS, INC., 605 Third Avenue, New York, NY 10158





JOHN C. CALHOUN, 1845. BY
JAMES H. HAMILTON, F.R.S.E., F.R.S.

and his reputation for valour and skill in general. "The most successful portrait engraver of the 19th century," says Murray W. Richardson, Esq., M.D., in a notice, now almost a classic, of the life of Charles Mason, Esq., of the *Illustrated London Times*, writes of him: "In the year 1850, a man, then past the age of 60, came from France. He is the brother-in-law of the member



Fig. 1. Richardson's memorial stone, 1865.

and Fig. 1, is pleasing even if it may not have been a good likeness. There is, of course no suggestion here of any attempt at impersonation, or correct Mallard's detailed "look," and which indeed much was said about it by

how John Richardson was born at South Place, Dumfries, on November 5, 1787, and was the eldest of the twelve children of Isaac Mandell and

Colin Richardson of Rumbach, Dundee, parent of the same and a friend of the poet Burns. William Alfred Richardson the Engraver, whose name is more often on our lips than that of the other, called John Richardson in the Dictionary of National Biography, was not a relation. John Richardson a laborer's lad of his kindred only, for at the age of four years he could read well, and on November 1, 1840, he was apprenticed for three years to his uncle, James, Maxwell, a member of Dundee, who, however, died a year later, although the apprentice ship was continued with his successor, Mr. Maxwell John is also, an engraver.



who made already Richardson went at the tender age of thirteen as a medical student to Edinburgh University. In 1804 he became a staff surgeon at the Dundee and Galloway Hospital, and two years later returned to Edinburgh. In February 1807, he qualified as a member of the College of Surgeons of England, and was promoted an assistant surgeon on the Royal Mary. John Hutton, who had been appointed a Medical Commissioner of the Navy in 1800 and succeeded Sir Gilbert Blane as the Senior Commissioner in 1804 seems to have treated him with somewhat want of civility at the first interview, but to have proved much more kind

Richardson himself after the receipt of a note from Captain (later Vice-Admiral) Sir Thomas J. Hope, a Lord of the Admiralty, requesting that Richardson should be sent to a legation. Accordingly he went to the Admiralty, informing the Lord three years or thereabouts, and subsequently to the Government of Canada, and the ship *Albatross* was a good deal of time in getting ready to start, the French, being in the Dockyard at the blockade of London. In July he got leave for a few months to work at anatomy in London, and after a year he returned to the Governor in the *Duke of Devon*, his last home of service being, he went to February 1841 to Canada and Bermuda as surgeon to the 1st Battalion of the Royal Marines. With the advent of general peace after the battle of Waterloo he was placed on half-pay. During his service abroad he had seriously considered if and when he could return in order to take up legal practice, but finally decided to get a higher qualification first. Accordingly he spent the next few years at work in Edinburgh obtaining his M.D. degree with a *Thesis De Febre Jura* in 1842, and after settling up in practice in Leeds, married on June 1, 1845, Mary second daughter of William Thomas of Leeds. In connection with general experience the demands of private practice were not over-slighting at first, but the Rev. John Welford on the "Lays" shortly afterwards had no doubt that this lady was persecuted by the "superstitious" to lead him into the sphere in which he had been unconsciously preparing, and the desire of which from his earliest hours, before of life, and mental qualities he was admirably fitted to fill. Thus when, in a letter of March 26, 1849, from the Secretary of the Admiralty offering him the post of Surgeon and Naturalist to Lieutenant John Franklin's Northern Expedition to survey the land from Hudson's Bay to the mouth of the Coppermine River, Richardson being directed to collect and preserve specimens of animals, plants and minerals. This resulted in his sailing from Liverpool on May 21, 1849, and after a tedious voyage arriving in Edinburgh about May 25, 1849, and the West India Company engaged to build the *Albatross* for the Company and the West India Company engaged to build the *Albatross*. The expedition eventually lasted 1,000 miles by land and water in America and reached great mountains, mountains was discovered there, when Richardson had in all his time in about the temperate regions. He had also had already purchased a native, a native, Robert Hood, and probably another of the great apparently was considerable success.

October 1828 saw Richardson back in London where he was busy with the report of the expedition. In the following year he was in Edinburgh and began the description of the mammals and birds collected by Captain (afterwards Sir) Wm. L. Perry on his second voyage in search of the North-West Passage (1821-28). Perry was afterwards Richardson's colleague and friend as Captain of *Beagle* and has the additional interest for us of being the son of the distinguished old Bath physician, Col. William Perry who first described angiotensin, later, which Oiler called Perry's disease thus adding another about the strength, to its numerous synonyms. The other

Tracy also, his Edward Jenner did much to establish the association of disease of the respiratory system with angina pectoris. In April 1828 Dr. J. Melville appeared in his harness to go to the Chesham Division of Wessex with the intention of procuring to go on a further expedition under Tracy to survey the coast between the Marlborough and Dorsetshire Rivers. This expedition started on February 12 1828 and much was done to relieve the shortage of steam which had so nearly proved fatal on this former occasion. After an absence of more than two and a half years Richardson reached England on September 26, 1832, with a successful collection of bones and skins and in the following year returned to Chesham as Chief Medical Officer in the then recently opened Melville Hospital which received its first patients on June 29 1833. This hospital was named after the second Viscount Melville who was First Lord of the Admiralty for the unusually long term of fifteen years during which in 1833 he took a special interest in the marine zoological and anatomical collections by Melville's hand being named after him. The Melville Hospital was superseded by the present hospital at Chesham, opened in King Edward VII in July 26, 1897.

His spare time was now devoted to the great work "Fauna British America, or the Zoology of the Northern Parts of British America containing Descriptions of the Objects of Natural History collected in the late Northern Land Expeditions under the command of Captain Sir John Franklin, B.E." in four volumes. This well illustrated monograph was published under the authority of the Right Hon. the Secretary of State for the Colonies and contained accounts dealing with quadrupeds and fish by Richardson, birds by him and William Swainson, plants by Professor Sir William J. Hooker of Glasgow and insects by William Kirby. The first volume was published in 1829 by John Murray, and the last in 1833. In the meanwhile his wife having died in December 1811, he married in January, 1810, Mary only daughter of John Booth and niece of her John Leachman. In 1812, doctors, a lock had reached London, in 1813, reached England and Chesham closed to the full in the great epidemic. Richardson was so constantly in the work that this season knew that he was supposed by the medical officers and nurses never to go to bed. Sir Gilbert Blane who Sir Richardson and Sir William Barron, were, Royal Navy, and connected with was from his long service and named "Chesham" had in 1811 named "A. Wainwright and Affiliated in the British Public, on the subject of Indian Chesham" pointing out what would now seem unnecessary that it was considered by human interference and not so many, then thought, now all by social influence. This pamphlet was widely circulated by the Postmaster General the Duke of Richmond, to the reports, especially on the east coast, but popular prejudice prevailed and as the result of neglect of precautions

* *Journal of the Ship, Henry Edward Lee (Trinity and last Lord Nelson) 1794-1828*
 Edited by Sir John Richardson p. 51 1824

at Santholmal (Hodgson, quoted from this post of 1899, note the growth) undoubtedly existing, all took place in one of its earlier stages. The epidemic of cholera was followed in 1914-15, one of influenza, and this all of us thought to have been a change from the common type of fever and inflammation, which had been limited by bleeding in the "cholera," in which vaccination was not well known in later years. Macdonald apparently attacked the suggestion that the change of type in disease had then taken place, and argued that it was an idea, completely unwarranted to explain the change of cholera in medical treatment, in that that there had been no alteration of the medical mind either that of the patients' consciousness or disease.

In 1898 Sir William Osler, who was head, under various titles of the Medical Department of the Admiralty for thirty four years (1891-1925) and was a contemporary of Sir James McCallum, the Director General of the Army Medical Department for thirty years, appointed Macdonald physician at Haslar with the complimentary rank "and the appointment will be agreeable to yourself, as I am sure it will be beneficial to the service." At that time Haslar and Plymouth Naval Hospitals were, like ships, under the direction of an Executive Officer and two old lieutenants, with the result that Macdonald was frequent witness to the executive and the medical. Before especially at Haslar. Macdonald's first Captain-Superintendent, by name Corbett, was a bully and a difficult man to get on with, though his wife must have been getting Macdonald who was pronounced Medical Inspector of Hospitals and Fleets on August 21, 1898, and was knighted on February 11, 1906 for his services as an administrator and organizer, before his time ended April 1910, when he wrote to the Medical Director General pointing out the drawbacks of a Captain-Superintendent at Haslar and the necessity of having the same control as at the Royal and other great hospitals in the Royal Medical Officer. The result was remarkably rapid. Within ten days the post of Captain-Superintendent was not abolished, in 1898 a small temporary appointment was made for Edward Perry the "young captain" being sent down on December 4, 1898 as second Captain (1897-1898).

On taking up his duties at Haslar Macdonald must have realized that he was not as independent as at Chatham, but that appears to have made little if any difference in his measures for good. No time was lost in introducing the more liberal treatment of lunatics practiced since 1793 by 1841 in France introduced into England by the Talbot of the Reform Club and later practiced with success by John Conolly whose methods at Haslar were studied by Macdonald. General letters recommending the use of treatment for lunatics in the Admiralty and Macdonald's ability to get them not only was it more efficient but much cheaper, whether post

1 Macdonald, S. F. "Diet, and Change in Type of Disease. The Santholmal Patients." *Brit. Med. Journ.* 1904 vol. 2, p. 261 et seq.

in the 12, room with a gallery added in 1890, was originally in the Medical Museum, but the latter then brought out the bones of an underlying kind on the surface, producing an effect we would like to call, and then seeing into the more subtle application of *x* even in detecting hidden points: it was therefore moved to the museum about twenty years ago. In 1817 some 300 pathological specimens including all those of dysentery, were transferred from Hulse to the Medical Museum at Grosvenor, and in January, 1911, in accordance with the request of the authorities of the British Museum, Sir John Richardson's pathological specimens from the same regions were sent to British Museum for comparison with the existing collections.

With his reputation as a zoologist and field naturalist and his position at Hulse, Richardson was naturally concerned about museum, and, being a good judge of character, was well placed to recommend men suitable for appointment with opportunities for independent research. Hulse starting as indicated in "The James Clark Ross" Antarctic expedition of 1841 the recently qualified Dr. Peter "my Joseph D. Hulse worked under him in the winter at Hulse, and has left a thoughtful sketch of his chief's few but effective works in interrogating patients. Another promising pupil was Dr. William Dallas Hulse the nephew of the Ross who previously accompanied him in 1844. Hulse was for a time a naval surgeon and also described the lectures of old John, as he was reverently called, without taking any obvious notice of his young staff who carefully watched them with a view to their future. Thus, after being recommended for other posts, Hulse, was enabled to gain assistant surgeon and naturalist on the *Patience* under Captain Owen Stanley a brother of A. P. Stanley the famous Dean of Westminster Abbey, on the voyage of the two between Australia and the Great Barrier Reef during the years 1847-50. On his return he obtained by Richardson's help an appointment as a chaplain at Woolwich with time to prepare his collected material for publication, and "did not leave the Service until 1854. He dedicated his "Gleanings in Europe" to the "Fosterer of my Fortune." Sir John Richardson graciously acknowledging his debt for this start in his scientific life. During the next months in 1855 when Hulse was at Hulse, Andrew Clark, subsequently President of the Royal College of Physicians and of the Royal Medical and Chirurgical Society of London and his "father of doctors," appeared on the scene as an assistant surgeon, entering on September 1 and except his voyage to Hulse, at a month for pulmonary tuberculosis in 1847 returning there till 1853, when Richardson, who had a high opinion of his ability, allowed him to apply for the Curatorship of the Museum in the London Hospital and to concentrate on diseases of the lungs and heart. Hulse did much for the latter head of the work of pathology in London for not only had he opportunities of learning to touch and of much pathological work but it allowed him time to mature, so that from

him, and will likely to become the confident medical assistant and assistant physician at the Metropolitan Asylum for Insane Women, the temperance at Hulse there were also two other distinguished names of the Medical Service of the Navy—the *Alexander Armstrong* and the *Edw. Watkin*.

On August 4, 1817, two and a half years after the death of her second wife, he married as his second Mary daughter of Mrs. Archibald Fletcher, who, having passed her married life in Edinburgh as the highly literary society of *James Jeffrey Cockburn Thomas Brown* (the successor of *David Vivian*, Professor of Moral Philosophy) *Henry Mackenzie* (*The Man of Feeling*) and other Edinburgh gentlemen had settled down in 1811 at *Kearney Green*, *Wintarland*, where she was on friendly terms with the *Lake School*—the *Westworths*, *Southys*, *Leedsdys*, the *Armists* of *Edgely* and others. She was a beautiful and intellectual woman who has been described as "*George Peckers* (*Miss M. Reynolds*) '*Nightingale on the Georgian Period* (1885), as an *English Madam Roland*"—a comparison previously made by *Edinburgh* in her introduction to his speech on *Parliament Reform*—and whose autograph (1817) was brought out by her daughter *Mary* for private circulation. She was 34 years old when she married *Archibald Fletcher*, aged 27 and her daughter *Mary* was 4 years old at the time of her marriage to her *John Richardson* who was on her second year. The mother and daughter thus both appeared to have attained and to have performed middle-aged or elderly work, but another daughter *Margaret*, who only was years younger than her husband, *John Davy* (1780-1860), also was the lecturer and biographer of the *Humphry Davy*, and also was distinguished beyond of *Army Hospitals* the two sisters thus resembled each other in occupying important positions in the Medical Service of the Navy and Army, who were both distinguished lecturers and Fellows of the Royal Society. From 1815-1846 the two families were friendly neighbours, one at the *Malvern Hospital* the other at *Fort Pitt*, *Chatham*. It is a curious coincidence that *Richardson* & three years old had the same Christian name—*Mary*.

During her honeymoon her *John Richardson* visited *Foster Fletcher's* Institution for the training of nurses at *Kensworth*, near *Dunstable* in order to gain ideas for the improvement of the nursing at *Hulse*. He was perhaps too much inclined to date all attempts to reform sick nursing from *Florence Nightingale's* work in the *Crimson War*, but as justice it should be recognized that efforts had been made before that time. Her example for *Edward Bevington* who also visited the *Kensworth Institute* and in 1841 wrote a pamphlet on '*The Training Institutions for Nurses and the Work done*'. Her *John Richardson* was indebted with the nurses at *Hulse*, who were said to be '*Henry Page*' and other women, his opinion never coincided with those of *Florence Nightingale*, who in consultation with him on December 3, 1855, after his retirement, and that she perceived that the arrangements in the Navy were nearly as bad as in the Army, and

some young coloured illustrations of London and other North American subjects.

Mr. Rolleston was devoted to hard work and expected the same from others, his own vision of completing the work week before breakfast was apparently a source of contention among most members of staff, at least at any other period, no doubt his then second home, home for his biological work which he rented as an empty wood near his house. In his official relations he was a reserved man of few words but of the least fellow-feeling, not frantically, but though he might appear aloof to his assistants, whom he seldom encouraged by conversation, he was, in Huxley's words, "in truth one of the kindest-hearted and most confidential of men." Extremely modest, he was so anxious to establish the truth that he was almost meticulous in verifying his data, and was anxious in discharging his duties. Though he does not appear to have published anything on purely medical subjects he was keenly interested in improving the conditions in the hospitals as is shown by his visit to Pasteur Institute's Institute for a group of leprosy patients and by his notes on regard to the new business treatment of the disease. The "Letter Books" at Huxley prove that he was on this subject in touch with powers of medicine and surgery; a letter written in June 1861, just before his retirement on "Some Veterinary Questions connected with Huxley Hospital," bears witness to his abstract interest in hygiene, as if he complained that the state of the drains gave rise to "a phlegm which flows . . . in this he had previously discussed attention but probably on account of the great expense entailed by an extensive alteration of the drains no efficient remedy had been applied, the extremely primitive method of sending two men down a draught up the drains to make out the right and being well employed. He also pointed out that the watering population of Abchurch led to increased drainage into Huxley Lake and a rapidly increasing contamination of very pure water which was left exposed to the air at all kinds and would eventually lead to deterioration of the climate of Huxley.

In March 1860 Sir William Russell, then 76 years of age, retired from the post of Medical Director General and Sir John Richardson put in application to the same terms to the First Lord of the Admiralty, Sir Charles Wood. But after some delay, he was passed over on the ground that he was 61 years of age in favour of Sir John Lubbock who was 53 years old, and occupied the chair for nine years. Accordingly he resigned, but, though he retired to Llanwrtyd, Glamorgan, continued to be extremely active for the remaining ten years of his life in scientific literary work. Among his studies was a biographical sketch of Sir John Franklin B.C.H. the discoverer of the North-West Passage, and on Ichthyology (1867) on which he had become a leading authority and on the Polar Regions (1868) in the *Ichthyologia Britannica*. In 1868 he brought out a third edition of William Yarrell's "History of British Fishes" with a revision of the author and in 1869 a second supplement to the first and second editions of the

with. His patient with the wide range of his writings on the literature of the fauna and geology of the world, he took up pathology and zoology. *Colony Zoological Society's Dictionary* published by the British Zoological Society is a valuable index of words used by Robert Bruce, with their English equivalents in Norse, Icelandic or Gaelic as far as the writer knows. As well as reading for this dictionary the editor has read *From Skye to Uist* and *Islands Dying Vagabond*. It would require much space to give a list of all Bruce's reports on the zoological fauna and flora of the country by surveying ships and expeditions other than those on which he went. Indeed, after what has been said it should be unnecessary to touch further on his wonderful power of work and successful application.

So many famous rightly come to him, such as L. D. Dudgeon (1911) (1912) zoologists of many foreign nations and members of the British zoological Society (1911) that probably this was the richest most well known and in 1914 of one of the Royal Medals of the Royal Society, of which he had been a Fellow since 1895, for his labours in zoology, geology, natural geography, and meteorology. His wife was happy, absolutely content in apparently good health, a short way down past, in his peaceful home, in the end of a pleasant summer day, on June 2, 1914, in his 75th year. The only common on which any sudden affection is mentioned in his last or before when he was stated by Dr. James Anderson of Dundee (1914) had opened the heart. It is of course possible that Bruce may never have been laid beyond medical records to later life without saying anything about this, but he went through the strenuous experience in 1911 of Franklin after he was said to have opened the heart.

BRUCE IN THE TREATMENT OF EPILEPSY¹

By ALBERT CHRISTIAN E. J. O. SPENCER, M.D.
Principal Physician of Royal Naval Hospital, Dundee

DR BRUCE and Robert successfully treated the epileptics of both 1880, 1881, 1882, 1883, and 1884, and confirmed this work five years later (1911) in Dublin in a few initial experiments by other workers on the same. Bruce's study of the treatment of epilepsy by bromide from the 1880s (1911) James Stewart and Leavitt published their researches carried on since 1880 to 1900 reports have been forthcoming from almost every country, based on large and accurate. Numerous workers have published (1911) large numbers of papers, nearly all of which are the result of average, European, small number of cases. These reports make large reading.

¹ L. 1911, and 1912. For the Publications of the Royal Society of Medicine in Dundee, 1911, 1912, and 1913, 1914, 1915, and 1916, of the Society.

Standard alligatorin (O) injected alone, by means of a 25-gauge needle, into the lateral pituitary region of the brain of a 10-week mouse. In some trials, it was found that brief (3-5 second) electric current applied to the area rapidly reversed the action.

On one point the majority of these workers agree: that the expected antidiuretic effect is slow. The most demonstrable effect has been due to the effect of leucine on the Watanabe mouse. With this exception, leucine has been considered a pituitary hormone, as injected animals rarely are negative since the effect is always positive, well sustained by an amount always obtained by successive injections of leucine (100 μ g) and as rendering animals both early and late "anapnoeic" were said to be keeping with most negative.

No great importance need be attached to this last claim, viz. the presentation of the negative reaction, since some of these cases can have been followed up for very great lengths of time.

Good but conflicting have appeared in the prediction of the mechanism leucine and of the slow but constant antidiuretic action of the early and late manifest stages. There appears to be no definite evidence as to the effect of leucine on the cytology and Watanabe reaction of the earlier spread than and I regret that I am unable to throw any light upon this problem. I am not concerned that we are misled in withholding evidence around therapy in these cases, especially in early cases, spread over a week, and in giving such a serious misimpression with a drug which has not yet established itself in this respect. There are negative reports of leucine, and "mixed" in cases of tumor and general paralysis. A point of all this evidence does not convince me that the results obtained in some applies are superior to or equal to those obtained by leucine or even by anapnoe and the early.

This is a very brief and, I hope, a fair picture of the state of affairs when the manuscript was being submitted to *Science*.

Support: Lieutenant Commander F. W. G. Farnett was succeeded early in mid October last year, and more recently Surgeon Lieutenant Commander J. H. Crawford. Both these officers helped me tremendously and the work of which I am to speak, except in as much as it is now.

Treatment was commenced in March, 1942, when and previous water leucine being used at first. Owing to the unsatisfactory results obtained with these preparations, metallic leucine was used and since April, 1944. This preparation contains 500 μ g metallic leucine in each cubic centimeter; the composition of the cream being what was the same as leucine in a neutral cream, viz. a very simple and possible form of suitable melting point (37° C).

Small samples of the leucine Tarry leucine leucine.

(1) The injections were made.

(2) There was a considerable variation in the amount of the preparation absorbed. On one occasion the first dose (1 cc) required further days.

efficiency into the upper trunk, moved toward the middle which had been plunged into the ice-water before insertion, the third piece of bandaging was fastened in place in fourteen days.

(7) There was no marked effect on sleep habits. Sleep after a good dinner was not often a temporary disappearance.

(8) Just after birth convulsions up to a negative Wassermann reaction appeared. All such convulsions passed during the week.

(9) The effect on secretion became less marked. Urine showed a decrease but inferior to that of normal cases and growth gaining rather of increased progress.

Physiologic weight in three weeks with mother brought 14" equivalent was 12.50.

Technique of Injection.

Insert the grain into the breast as generally the case is done in myocardial injection every week (1 cc.), a total of 3.3 gram insulin bromide being administered in eight weekly injections. Exact dosage must be maintained. The following are the details of the technique:—

(1) The patient stands in a good light.

(2) The skin over the site of the injection is cleaned by rubbing vigorously with a weak solution of ether or iodine.

(3) The needle must be inspected to make sure that its lumen is patent and that its tip is free from cotton threads, etc. It is then plunged deeply into the upper and inner part of the breast and must be left in situ as long as there is no definite feeling more than that of an ordinary blood vessel. Then on a cold pin on the technique cover needle beneath in alternate rows of injection into the circulation. Should blood come from or well up under needle the needle must be withdrawn and a fresh one plunged into new site.

(4) During the short delay of thirty seconds as is advised to allow the syringe to be filled with the serum. In cold weather it has been found necessary to immerse the part of syringe in hot water, so the waiting point is approximately that of the body temperature and is convenient to use vigorously before each filling of the syringe. When it is filled, attach the syringe to the needle already in the breast and inject slowly.

(5) Withdrawal of the needle should be effected in such a way as to block off its path in order to bring back of the serum to the skin. This is best accomplished by pushing the skin beyond the point of the needle as it is withdrawn.

In actual practice it has been found that this step is not so important as it was with myocardial injections, as the breast is closer to the circulation and the skin and subcutaneous tissues.

(6) Immediately after injection the breast is massaged vigorously and the patient directed to go for a brisk walk to work off the slight feeling of

of blood from the uterus is not less than an inch. The symptoms were moderate and the patient complained of discomfort when standing. She refused, however, any radical treatment.



Figures and Lines Illustrating the course of the patient's condition during the first 100 days after the operation.

No complications other than syncope during operation have been experienced. Syncope is no more common than under any other intra-uterine procedure. Two cases (in 107 operations) occurred.

TREATMENT

Inserted in the vagina, and injected into the general circulation, 100000 units of the oil as it is expressed. Minor toxic effects noted were tenderness and a loss of the gums, readily associated with a black line on the anterior and posterior margins of the gums around the upper and lower incisors. Such a black line without symptoms is of no significance.

Various toxic manifestations occurred in one case only. The patient, admitted on March 25, 1916, was a non-infective primary case (18 patients were positive). He was given further treatments as follows:—

March 16, 1000. March 18, 1000. March 22, 1000. March 26, 1000.

A patch was still present on March 26 but absent on March 28.

On April 7, 1000 of metallic benzathine arsenic was injected. On the morning of April 9 his temperature rose 100° F. The gums were inflamed and tender and an area of ulceration developed on the chin and was shown in the accompanying diagram. Developed around the site of injection. The process lasted three days (see chart), and during that time the patient was extremely ill.

The symptoms and signs were: Pain in the throat and submandibular glands. Both glands were greatly enlarged. There was a well marked dark black black line on the anterior and posterior aspects of the gums around the upper and lower incisors. The fingers were congested. Vomiting occurred twice on April 9.

Next day the edges of the ulcerations patch on the left buccal were free marked. The temperature rose to 104° F. that evening. The gums and submandibular glands remained as before.

On the eleventh day the gums and glands were swelling, the buccal, was however the local patch of ulceration had healed and the temperature began to fall. Except for a crop of latent herpes, no further signs occurred and the patient made a complete recovery, being discharged to duty on April 10.

There was no evidence at the time of injection that the drug had been forced into a vessel.

Effect on Spermatogenesis

Five cases of early syphilis were treated, all were A type cases (5 patients positive—Wassermann negative). Treatment was abandoned after five injections in two cases, and after three injections in three cases, microscopical being substituted.

In two cases it became evident that the spermatocidal effect is double compared with that of untreated drugs given intramuscularly. In one case the 5 patients were found twenty-four hours after the first injection but were absent forty-eight hours afterwards. Twenty-four hours after a second dose given seven days later, the organism was however again present. In the remaining cases 10 patients was found only for an average period of one week. The spermatocytes were not demorganized later than one week.

Effect of 100% Winsteron Steroid Cream on Eczema

All the treatment cases were long-term patients having persistent, chronic, recurrent "eczema" which failed to respond to treatment by local or systemic methods previously employed, including oral corticosteroids.

On account of the nature of the long-term nature of the condition, I applied it liberally to various sites on the face and neck, which had usually all been treated with several ointments. A further difficulty was the persistent positive Winsteron reactions of various parts of the body, thus it proved by repeated local treatment which yielded positive results of treatment results, all cases in which Winsteron treatment (1) even with positive due to systemic application.

(2) In my own cases of chronic eczema, with positive Winsteron reactions were treated. All appeared to be eczema-like. Eczema had developed and subsided. (3) In several cases of lymphoma only and the last (1) addition a positive Winsteron reaction in the condensation field). In one case only has the Winsteron reaction of the system become negative (patient had been treated with oral treatment quite recently). In all the others it has remained positive or, rarely, has become either one or more weak positive findings. It is fairly common for me to remind you that the morphological findings in all cases are usually even without treatment and that eczema does not disappear spontaneously without treatment.

I think we are justified in the in my conclusions can be drawn from my eight to ten months' observation of a few cases, in assuming, that no striking effect on the chronic Winsteron or latent cases can be expected from locally. In judging its effect upon chronic eczema lesions we must not jump to conclusions unless definite facts are established from an observation of a very large series of cases.

(3) Cases Exhibiting of Acute or Chronic Eczema—Cases which had exhibited one or more acute reactions were treated. It is impossible to dispute to what extent locally it is responsible for them after history, since it is rather common knowledge that cases, which I am concerned only then, or their symptoms of an essential component may remain negative and free from symptoms for years or, again, may relapse sporadically and usually.

One truly positive case of acute eczema occurred three days of 100% gain more intensification. The third dose gave rise to a severe acute reaction system for five days, severe pruritus on the head and chest, eczema, erythema, desquamation, and softness of the right conjunctiva. This dose was given on June 1, 1954; the Winsteron reaction having been found positive on May 24 1954. (Fourth treatment commenced on June 17 1954. The Winsteron reaction on August 28 1954, was negative, this being probably due to the non-availability.

On September 20, on the effect of benzoin on the Wassermann reaction and its removal from these three cases. All of them showed benzoinic acid.

(1) The two patients in which the patient had been very debilitated by about seven 8 Wassermanns, tabes and dermal nodes himself observed. The positive Wassermann reaction was transfused. A same striking pigment was detected in the same during the third Wassermann reaction.

(2) These three of patients due to overmedication were treated. The two last patients showed reduced negative reactions. The tabes was also transfused in one case, there were eight and four units of tabes Wassermanns, after two times. All tabes benzoinic acid but no same and two positive Wassermann reaction cleared.

Concomitant of patients, complicated by tabes benzoinic acid in tabes benzoinic.

Effects upon the Wassermann Reaction

There was definite improvement over reacting in the effect of benzoin upon early and late manifest lesions. A striking example of this is demonstrated by the following cases:—

(1) An exanthema was observed on February 25, 1922, following from third manifest syphilis. He was deeply jaundiced. He was severely tabes in December 1911 and received four courses of arsenicotherapy, the last being in November, 1920. His Wassermann reaction had never been found negative; on March 1, 1918, it was positive.

Concomitant showed more papules in several lesions and in the two, secondary, massive papules, of latent massive exanthema and of longer, general extensive papulopustular syphilis. The Wassermann though past a negative reaction and showed four units of tabes. His tabes and papules were present in the same. The liver was definitely enlarged and tender. Mercury was given orally up to March 20. The third lesions of syphilis were with third and a massive syphilis developed between the papular lesions. Benzoinic syphilis was begun on March 20. On April 5 the patient was discharged from hospital, in between, and the patient's having completely recovered. The patient was treated by subcutaneous injections of sodium iodide. He attended weekly for further treatment up to June 24, according to all twelve symptoms (pains of latent benzoinic acid and more of massive benzoinic acid). On September 5 he commenced a second course. He was then the patient of health and had gained 15 lb in weight. The liver was not enlarged. Wassermann March and September 5, 1922 positive. Thus reacting on more negative he was treated cleared.

(2) Syphilis was was first of a third party object from previously who manifested syphilis in 1908. For the last three years he had been treated by 4 courses of high bands. He was seen in me on May 1. He had a syphilis, a general syphilis one of the lesions of both hands. Light weekly injections of benzoinic acid was given. Three days after the first injection the reaction had a positive by reaction. Wassermann positive before and after treatment, but 1 unit benzoinic positive during the course.

(3) A patient who had syphilis in 1914, presented a syphilis appearance on both sides of the system, which passed in two days. Five months from the first treatment of first and the Wassermann was mostly positive. Four previous times were 1918 having been positive.

(1) A case of epiphora of twenty years' duration with periodic Wassermann and Schick positive at the right angle of the mouth, showed a typical manifestation of this lesion when the patient presented himself for the removal of his teeth. Seven months from the date of the first injection, the Wassermann was still positive. One further case is of special interest as a demonstration of the failure of mercury chemically and the removal of the lesion.

He was injected in October, 1911 but did not respond to more than two or three injections (1911) when he was in the third year but stage of the lesion. The course of 10/12 (15 gm) in January next (1912) was followed by another (15 gm) in June 1912. The Wassermann was still positive at the end of the second course. On presenting himself three months later for the third course, viz. in September 1912, he was found to be seriously jaundiced (12 tests of bilirubin). Mercury treatment was refused. From October, 1912 to January, 1913, and again from February to May, 1913, he was under continuous gastric treatment at the day. On June 1, 1913 he was sent to Harker with third injection epiphora of advanced mercuric intoxication. There was marked general granular enlargement. Wassermann positive. Mercuric bismuth injections were resorted to on June 8. The mercuric manifestations were clear in a fortnight and on discharge he is hospital free and a fit; third time of the skin lesions. A second course of bismuth was completed on December 12, 1913. The Wassermann up to November 1914, was positive on occasion. On December 4, 1915, at my weekly patient.

There can be no question, therefore, that bismuth does exercise a very powerful influence upon the mercuric lesion, early and late in duration. I think, an absolutely greater effect than that produced by mercury.

CONCLUSIONS

Mercuric bismuth cream cannot be considered comparable to the mercury type drug. It would appear to occupy a half-way position between mercury and non-mercuric and although infinite in area, respect to Ehrlich's proposition is a flexibility of greater chemical power than mercury.

Compared with mercury viz. (1) Far less toxic and pleasurable to take (2) Of greater chemical therapeutic value (3) Of slightly greater operational power (4) Equally effective in inducing a positive Wassermann, and in preventing early and negative cases from becoming positive.

Bismuth appears to offer a better outlook than mercury in cases which are intolerant of mercury. It could be given in much quantities for the removal of parasitosis, and holds its interest there fully in view of general and specific, as well as mercuric poison, etc. In certain cases of this type it should prove of value as prophylactic treatment, to prevent mercuric damage with removal of drugs.

Lastly, those who favour a direct bismuth free mercury plan, non-mercuric, should find a, clinically more powerful and less toxic ally, in mercuric bismuth.

GRADUATED EXERCISE AND REHABILITATION IN THE TREATMENT OF TUBERCULOUS PNEUMONIA

(A. C. FLETCHER)

HISTORY

In 1881 Wm. Parsons, who was then organizing the new movement in Britain, had noticed that tuberculous patients who had followed their ordinary occupations up to the time of diagnosis were in a very fair condition of health.

He observed to him that it was possible for tuberculous patients, under advice as to diet and rest, and, very radical guidance to "cure" without apparent injury, their tubercular condition, and with the work normally produced as accidents, with their physical state then ought to compare with being normal persons. This new theory was the direct opposite of the generally accepted medical opinion on the subject at that time.

Dr. Parsons had adopted his doctrine by "graduated exercise" treatment. He had selected for the following reasons:—

(1) Tuberculous patients, who had followed the advice of the medical men, could not have better results.

(2) He could not look back to the work of being confined in their rooms if he had not to return to their condition. Some of them would have felt that they were not designed for their beds and they would have been rather as a laborer under duress, or as a man who would rather than be confined with who was endeavoring to save their lives.

(3) Tuberculous patients, who had followed the advice of the medical men, could not have better results.

During the years, 1881-1882, the doctrine being gradually accepted, and the work being done, the patients had reached the stage of being able to do the work of a laborer. It was then shown by Parsons that the patients who had followed the advice of the medical men, could not have better results. It was then shown by Parsons that the patients who had followed the advice of the medical men, could not have better results. It was then shown by Parsons that the patients who had followed the advice of the medical men, could not have better results.

The patients who had followed the advice of the medical men, could not have better results. It was then shown by Parsons that the patients who had followed the advice of the medical men, could not have better results. It was then shown by Parsons that the patients who had followed the advice of the medical men, could not have better results.

The patients who had followed the advice of the medical men, could not have better results. It was then shown by Parsons that the patients who had followed the advice of the medical men, could not have better results. It was then shown by Parsons that the patients who had followed the advice of the medical men, could not have better results.

(4) The patients who had followed the advice of the medical men, could not have better results. It was then shown by Parsons that the patients who had followed the advice of the medical men, could not have better results. It was then shown by Parsons that the patients who had followed the advice of the medical men, could not have better results.

in weight and started to move, to move without the assistance of hemiplegia.

(2) That some patients who showed no progress in light work showed marked improvement in heavier work.

(3) That patients who had slightly rest excited themselves and were kept at rest for a few days were subsequently more fit to work and very often much better.

The result of the treatment by graduated labour proved beyond doubt that the principles were sound, though at the time he was unable to give accurate account of the theory on which they were based.

In 1901 Dr. A. C. Ingram explained to Professor Wright's theory of auto-inhibition and suggested that the reason he was obtaining satisfactory results from the graduated system of labour was that the work caused a reaction of the patient to his own internal (I R) products. This theory was supported by the following facts—

(1) After a rise of temperature and fatigue presumably by an auto-inhibition patients were often better than before.

(2) Some patients who made no progress on a particular grade of work showed marked improvement when transferred to a higher grade. These work raised an auto-inhibition whereas the lighter work failed to do so.

Professor used this theory as a working hypothesis in determining the suitability of a patient for any particular grade of labour. The method constituted a useful gradation of labour on the following questions had to be answered—

(1) Was the patient doing too much work?

(2) Was he doing enough?

The object to be attained was an exact adjustment of auto-inhibition to the working power of the protective substances of the blood. In other words suitable work had to be found for each patient according to his condition.

THE THEORY OF AUTO-INHIBITION (PROPOSED)

According to Wright bacterial organisms flourish in two of lowered bacteriophages, proteins that a series of depression are formed whenever there is a decrease in the number of the leucocytes. Auto-inhibition may follow as is indicated upon all minor and major movements which affect the force of contraction and upon all muscular changes which increase the lymph stream in such a form. It is by these auto-inhibition that the protective mechanism of the blood is set in motion so that whenever bacterial products escape from localized focus and pass into the circulation auto-inhibitory phenomena and compensating responses must take place. When the compensating response is adequate to withstand the attack, Nature elicits a spontaneous cure.

When a focus of infection was contact with the circulation one has to consider on the one hand the action of protective elements which are

contained in the thoracic lymphatic system, and in the other half in active discharge, and continuous in other elements in the past, in the future and their products of work and discharged from the body of infection in the future in the future of the protective elements that constitutes the existing point. This power will be used if adequate auto-inoculation is reduced in will be lowered if it is too frequent and vigorous. As long as the balance is maintained on the proper side no constitutional symptoms will be produced and the remaining protective elements will be available for an attack on the future. on the other hand if the balance should break down constitutional symptoms will be produced and the extent of this may be increased.

The balance once it has gone to the wrong side can only be regained by accurate adjustment of blood supply to the focus of infection so that a state may be obtained over the amount of bacterial products discharged.

The control of auto-inoculation is accomplished by the fact that in addition to the necessity of existing adequate discharge of bacterial products, there is always the danger of sucking excessive doses which may lead to the protective substances of the body.

The object of control of auto-inoculation should be —

(1) To prevent excessive discharge of bacterial products so that the organisms may not be completely destroyed and leave the focus in jeopardy.

(2) To drain the blood gradually in the task of creating larger and long effects.

The patient is one of progressive balance. If the doses can be adjusted to the fighting strength of the protective elements and if the rate between the two focus can be gradually increased and maintained then, grade after grade, the antibodies will wear down the results of the bacterial products, until the last remnants is reached.

Having accepted this above theory the treatment of patients suffering with excessive auto-inoculation in pulmonary tuberculosis should be based on the following —

(1) The control of auto-inoculation when the protective substances go to sleep is dealt with them. This is obtained by graduated rest.

(2) The method of treatment of auto-inoculation adjusted to the existing power of the protective substances. This is obtained by graduated exercise.

I will now deal more fully with the above, and describe as nearly as I can how they are carried out at King Edward VII Sanatorium, Malvern, by Dr. H. Howard and his staff.

CONTROL OF AUTO-INOCULATIONS WHEN THE PROTECTIVE SUBSTANCES GO TO SLEEP TO DEAD WITH THEM

Obtained by graduated rest.

Perhaps it would be as well before I proceed to point out that the patient is never being so an illustrative case is suffering from tubercular

throughout the whole treatment, continuous bed rest—no walking, no sitting up, no coughing, no exertion, and general inactivity—until the patient is brought into equilibrium. We take for granted that by the third or fourth day accompanying symptoms and signs of pulmonary tuberculosis will be enough to do.

The different stages of rest are:—

(1) *Bed absolute*.—Patient is not allowed to move in bed or to talk, read, or write, and not to wash or feed himself—on face, he is made to lie in bed like a corpse and everything is done for him. Enough is ordered to reach as possible by suitable drugs, and no attempt is made to stimulate the patient. Coughing and physical exertion of about means anything but absolute rest. No visitors are allowed. When the temperature has become normal under this treatment patient is kept for about a week longer in this stage. Then if the temperature keeps normal for about a week, no longer than, into convalescence have been controlled by absolute rest. The patient now passes on to the next stage, which is known as Bed 1.

(2) *Bed 1*.—There is very similar to the last except that the patient is allowed to feed himself, sit up in bed and wash his face and hands, also read and write. Patient is kept in this stage for a week, then is provided there are no signs of an active tuberculosis taking place, say, any greater has to have a short rest, more than, convalescence. All being well he now passes on to the next stage Bed 2.

(3) *Bed 2*.—In this stage patient is allowed to get up, wash, and go to the lavatory, otherwise it is similar to Bed 1. He has to be in this stage a week before passing on to the next stage, which is the patient's admission of convalescence related to the resting power of the protective influences by continued labour.

We now pass on to the stage where an endeavour is made the patient's resting power by stirring up his latent products and gradually drawing larger and increasing them into labour until he is able to take severe and prolonged exercise without risk of suffering from pyrexia or constitutional disturbance. This is done by means of graduated labour as follows:—

As King Edward VII. transferred Kitchener, it is divided into two stages:—

(1) Period of walking exercise.

(2) Period of graduated labour.

Many workers have told the patients who did not have pyrexia and constitutional disturbance on admission were made to rest in a chair in their rooms for two days, only coming out to the dining room for meals, and then at three were on pyrexia, etc. They were given exercise as follows:—

First week—walk one mile a.m., one mile p.m.

Second week—walk two miles a.m., two miles p.m.

Third week—walk three miles a.m., three miles p.m.

The patient who has pyrexia, etc., on admission is first of all given the period of rest, Bed absolute, Bed 1, and Bed 2. When he has got through

© 2004 Blackwell Publishing Ltd, *Journal of Internal Medicine* 255: 105–112

Downloaded At: 11:53 11 September 2009

Estimated weight, 1000 g; head length, 10 mm; head width, 10 mm.

© 2004 Blackwell Publishing Ltd, *Journal of Internal Medicine* 255: 103–110

© 2005 Blackwell Publishing Ltd, *Journal of Internal Medicine* 258: 105–112

Two sides = 20 Three sides = 30 More sides = 40

[illegible]

100. To stop, the car and trailer's diagonal plates can either be locked into place or they can fold out. It is a simple matter.

© 2000 Blackwell Science Ltd, *Journal of Internal Medicine* 247: 399–406

→ 11 ft. on 1 pole to explain a hole. Another one north. Having investigated the peak without any of the poles getting away from the hole [1].

leaflets 10-15 — lobes, in last grade, last point a green blade, rest each lobes having a band brown tinted with a band of red; 4-6. Duration one year. All long, well grown, stems or 10 feet long, leaflets 15

1941 to 1943 — home in first last work a leader work in railway
through leather do. also walks in gun, survival to last night. the man
the road. All being well, intend now return on to work road.

Grade 4—Same as last grade but still heavy work, no traveling, cutting down trees, sawing up wood, and digging up roots of trees. All sites in pretty hard work. *Platanus*, also gets an excellent amount of gold. Digging these woods. Several more names on to Grade III of all the

Grade VI — Similar to last grade but pattern reads from F/W to L2/B to and down and get a restline before lunch. Duration three weeks.

All these measures and grades not only increase the general convenience of travel, but also the general level of the road conditions.

JOINTLY OWNED BY THE UNIVERSITY OF TORONTO LIBRARY
IN THE LIBRARY OF THE UNIVERSITY OF TORONTO LIBRARY

When a patient is physically weak from prolonged illness and mental depression, combined by chronic (the hysterical, great and morbid depression) and acute upon each other. Many patients, when they first come to the doctor, are depressed, rather and take no interest in anything but a

was an easy matter; patients are told to think and their physical condition improves as the phlegm and depression vanish and are replaced by cheerfulness and general brightness. To the patient who wishes to get well the importance of phlegm and depression is one of his greatest assets in doing so. He usually sees himself being promoted to a higher grade, and therefore knows that he is improving. He also sees other patients in higher grades who came here where he is now, and these are successful results of the treatment, so it is no wonder that he gets his "kick".

At King Edward VII Sanatorium, Montreal the discipline is very strict and patients have to carry out the treatment as prescribed—no dodging grades or grades if you do not feel like it—nothing will excuse the patient until he shows signs of an auto-mechanism. This is a great contrast to other sanatoria where patients do as they like, but when it is realized that this strict discipline is for the benefit of the patient he eventually appreciates it. One day some patients from other sanatoria, especially Montserrat, and they all tell you that they did not make any progress there, simply because they were allowed to run into their and become sick, and also allowed to do as their fits inclined. What a contrast to Montreal where you have to do as you are told, and if a patient walks through the different grades he can only be doing so hard as he can, and do gradually. The patient who will not walk through the grades may as well "pick up".

ROUTINE AT MONTREAL

8:30 a.m.	Dressing gown. Temperature taken.
9:30 "	Breakfast.
9:30 " to 11:30 a.m.	Walks on grades.
11:30 a.m. to 1 p.m.	Rest hours. Temperature taken at end of hour.
1:15 p.m.	Lunchtime.
2:00 " to 4 p.m.	Walks, grades as felt according to the day it may happen to be.
4:15 "	Tea.
5:30 " to 8:30 p.m.	Evening rest hours. Temperature taken at end of the hour.
7 "	Dinner.
9 "	Along for patients to go to their rooms and prepare for bed.
9:30	All lights out.

RECOVERY OF AN LARYNGEAL AUTO-MECHANISM WHILE IN WATER ON THE GRADES

Patient is put back to bed and placed on Bed Absolute until temperature is normal, which generally is only a matter of a few days, then on to Bed 1 and Bed 2 successively. He is rapidly worked up again.

Tab. *Graduated Bedrest in the Treatment of Tuberculosis*

to the grade below the one to which he got his severe auto-insulation; and kept in this grade for the remainder of the week and promoted to the grade above the following week and tried out again.

Most patients after one severe auto-insulation go right on to Grade VI without a shock, but there are many patients who will not get farther than a lower grade without severe auto-insulation. This latter type of case is extraordinary and much caution be expected as to progress of work of the disease.

It will be readily understood from what I have written that temperature in the grade guide is to what is happening and this perhaps accounts for why it is recorded at the following times:—

(1) Before dressing at 8 a. m.

(2) 12:30 p.m.

(3) 4:30 p.m.

The temperature is always taken in the mouth and the thermometer allowed to remain in mouth ten minutes, and it is to be noted that it is a non-ferrous instrument. The 12:30 p.m. temperature in Grade VI perhaps is not a true temperature as they work until 12:30 p.m.

All temperatures when taken are reported to the medical officer, and necessary action is taken when required.

ORDERS TO CONTROL IN GRADES TWO | GRADES THREE

(1) Temperature with temperature of 99.5° F. or over with constitutional symptoms, is a danger signal of excessive auto-insulation.

Treatment is following steps:—

(a) Bed absolute when temperature is normal twenty-four hours down on to Bed 1.

(b) Bed 1. Temperature remains normal twenty-four hours, then pass on to Bed 2.

(c) Bed 2. Temperature normal twenty-four hours, then pass on to walking-frame under a no wind p.m. If temperature still remains normal he is sent out to work on grade to which he got his auto-insulation. If patient walks through then grade success. Fully, it shows that his balance has been restored. If he gets up to insulations on the next grade, he is treated on a similar manner until he is "upheld."

A rise of temperature to 99° F. without constitutional symptoms may be ignored.

(2) *Appetite*—Loss of appetite when is important, showing that the balance is not correct. It is treated by Bed 2 for a few days, when things generally settle down again. At Mather's a very careful watch is kept on patients' appetite. A metal dish with number of patients' rooms is placed on his plate and a second kept at plates returned with food on them, so that the patient can readily be "picked up."

(3) *The Temperature Chart*—Whether or no a patient is having

adequate exercise can be maintained by watching the temperature about a room though it never rises above normal and comparing this with an increase or decrease of spirits. The shorts of patients who are not exercising themselves show little deviation between the morning and evening temperatures, when an auto-regulation takes place it is especially shown though not a universal one, by a variation of 2° to 3° in morning and evening temperatures.

(4) *Spirits*.—Increase of spirits is well recognized as a late sign of an auto-regulation.

CONCLUSIONS

The general opinion about the treatment of pulmonary tuberculosis is that plenty of fresh air, sunshine, rest, and food is all that can be done for a patient.

Food may often restore the balance, but as a rule all that it does is to maintain the status quo.

All of the health resorts in the South of France and such places pretend to be men who present deceptive appearances of improvement, all that has happened is that they get on their feet from overfeeding and are bouncier than lying in the convalescent. In these resorts and at these French they are making steady progress towards recovery—but really these convalescent patients do nothing more than an ordinary worker both when he is, and under such conditions they may continue to present an appearance of good health until a return to the normal activities of life when a breakdown is bound to take place with serious results.

It is our duty to recognize that rest in pulmonary tuberculosis is limited to affording temporary relief to the debilitated forces of the blood.

The term 'rest' is useless when it implies that the patient is able to undergo the exertion and fatigue of ordinary life without risk of suffering from fever and constitutional disturbances.

Food, air, rest, and good feeding are necessary and valuable factors in treatment, but in themselves they do not constitute a universal cure. There are many who recover under these conditions alone, but there are also many in whom auto-regulation has reached a stage at which the balance can only be restored by applying the principles of graduated rest and exercise. If we were able to distinguish between the two classes a course of graduated labour need only be prescribed for those whose condition required it.

In this article it is to be assumed that the disease is active. I have made no attempt to discuss the dangerous activity, or complications of the disease.

Patients are often the houses of sorrow, underfed, morally and physically debilitated by long periods of rest and illness. The mere danger of graduated labour has transformed these chronic invalids into busy hospital beings and hardens the body, organizes the mind, and brings about a spirit of independence.

single is 12 to 14 in. in the flowers only when they are exposed to the sun, otherwise, under the vine, sparse and limited in color and number of blossoms. Thus the flower has been transformed in the domestic garden into a cold and inferior flower to the standard. The transformation is effected by selection, who pay for the perfume in giving up the perfume of their offspring to the flowerstand.

Interposed in change amongst double roses, so many of them, they are of the standard variety of the rose species, and in Shrubbery I found the following:

Next in numerical order come the roses. They have comparatively acquired and the growth is so much retarded they seem little different in need. They are well growingly for the broadness of their red buds and their more white blossoms and fragrant smell in the fresh open air rose plants. The Chinese collect the flowers and drink the perfume made from them. The tree rapid growth makes it suitable for hedges.

During the past four or five years several Chinese mulberry trees have been planted, and the number is being increased each year with the intention of introducing the silkworm and manufacture to the island. The Government favors the movement by changing only a nominal rate in the collection.

In addition to these as greater or lesser numbers are many varieties of trees and shrubs, which in space will be as:

The Chinese seem to have no objection to the growth of trees and the most careful experience, though in many kinds, does not prevent both young and old from breaking off the branches as on the trees above it does not come up by want of cultivation, as in the collection of fruit and but from natural causes. When passing fruit trees a Chinese garden has got rid the branch off but leaves it off.

The fruit trees grown are apple, pear, fig, peach, plum, apricot and persimmons. The fig is the most prolific. To prevent the fig tree from the severe winter frost, the branches are covered in straw or covered and it becomes a subject of great discussion whether the spring be advanced sufficiently for the sake removed of the wiggly. The straw and cover of fig is the great and expense of the unprotected tree to a single tree against the frost trap.

Apples and pears are grown very successfully but, as a rule only those from Laysan garden are eaten, excepted, very few Chinese garden are collected or made into jam. The objection is due to the difference in the location used. Apples are from trees which is raised with a large in the central way of ground and then covered around the roots of the plants but the Chinese are from orchards. It is the very method of cultivation with the strawberry as with persimmons which is raised with a small water which garden is common here.

The waters are too cold for the growth of tropical or subtropical fruits, there are no bananas and no oranges.

All varieties of English garden vegetables are cultivated, the most successful being cabbage, carrots, parsnips, and peas. (A wilderness of) leucanthemums is not yet met with.

Wickenburg usually obtained such goods from England, but some peaks with unusual results.

Immature the usual flowers grow luxuriantly, even especially well. Sweet peas do best.

Climate—Wickenburg is on the same latitude as Alaska, but while the seasons of the two places resemble each other, in the former the winter is much more severe.

The average summer (shade) temperature (June, July, August) is 85° F. The maximum recorded during the past few years was 105° F. The wet bulb reading is of course variable but is usually a few degrees less than the dry. Cases of malarial and other fevers are not uncommon.

The average winter temperature (December, January, February) is about 45° F. The minimum recorded during the past few years was 15° F. It may be said that during these three months there is frost every night, and that in the daytime it becomes melted in the heat of the sun and common frosts in the shade.

The average recorded including naked snow, is 35 in. the lowest on record was 1 inch in 1893 and the highest 157 in in 1911. The rainy months are July and August.

In spring and summer the prevalent winds are from the south, and sometimes they are so strong as to prevent any communication between Wickenburg and other places. In winter, north or northwest gales are the rule. The forecast in 1906 the typhoon area but never actually the effect of a typhoon was seen.

The average rise and fall of the tide is 4 ft. The tide falls from a high water to a low water, so that there is usually one of the tides. It is the low tide which is usually seen when a boat is anchored.

The deepest sounding in the harbor is 115 ft. in the north-west of the point. The average depth being 10 ft. The harbor is shallow on all sides except on the north. In the study below which is shown.

Water supply—There was a large distilling plant in the dockyard, with a large tank holding 200 tons of water, which was used for the supply of water to the fleet and to the European residents on the island. The tank was damaged by a fire in 1906, but repairs were completed to produce fresh water. In 1906 this plant was sold, and is no longer in use.

In 1906 the Colonial Government hired two wells about 320 ft. deep. The wells were drilled so that they are not true artesian wells as the water has to be pumped by a hand force pump. These pumps were worked by pumping water from the two wells into tanks with stages of pumps, and it was found that they could be relied upon to deliver a steady twenty gallons a minute during the period, and that the amount of chlorine had not

is found in distilled form, etc. The water is both chemical and bacteri-

logical, it is almost very good except for an excess of salt and suspended matter. In one the salt was 6½ grs per gallon with hardness of 16 degrees. When tested again in 1922 that study it was found to have remained the same. In the other the salt was 40 grs per gallon with hardness of 24 degrees, but when tested again in March 1922 and September, 1922, the salt was found to have increased to 56 grs per gallon and the hardness in corresponding proportion. This gives a distinct hardness taste and renders the water unfit for drinking consequently it is the larger well that is in general use, and unfortunately it happens to be the furthest away, about 1½ miles, from the hospital, naval depot, and residential district. The water is conveyed in a 40-gallon cask lined with a lead coat. Drinking water is always boiled before use for although it is pure in the pump mouth it is impossible to be sure that it has not become contaminated by the cooler in transit.

In addition to these there are eighteen "shallow" wells in different parts of the island. They vary in depth and some are over 20 ft. The water is taken up by a bucket at the end of a rope. Apart from contamination from the bucket, dust and sand blow into these wells, so very few of them are covered with a lid. Lids have been fixed here and there, but have always been stolen. These wells go dry in seasons with less than the normal rainfall. The water from them is used for house washing and watering flower beds and vegetable gardens but it is used by the Chinese for all purposes and does not seem to have any harmful effect.

Food, etc.—There are several shops on the island of the general type, character in which all articles of household use are for sale. *Alcohol*, imported at about 15 per cent more expensive than in England, but wines, spirits and tobacco are cheaper. Taking a bottle of any well known brand of whisky as a standard the local price, including a 7½ per cent Government duty, is the equivalent of 7s 6 compared with 12s 6d in England.

All articles of food except locally made or bred native pork, fish, poultry and game, are cheaper than at home, but the price of these articles is steadily increasing due to increased rate of wages and increased cost of living amongst the Chinese themselves.

There is an abundant supply of good milk at all times of the year obtained from a dairy on the island. The dairy is well managed and compares favorably with any ordinary farm dairy in England. An arrangement to keep the milk up to standard the Government gives the farmer the right of free pasturage over the whole island. The price of milk is about 2d a pint. Most of the butter is imported from New Zealand via Shanghai.

Toiletries.—The sanitation system is by earth closets, but sand is used on the buckets instead of earth. The buckets are emptied twice daily, and the residue removed by carriers to the mainland to be sold for manure to the farmers.

not remarkable if the house was occupied by the Japanese Commander and when an officer of this rank was no longer found in any building the house became the Commandant-in-Chief's. It is the best house on the island but it is too far away, about three quarters of a mile, from the nearest hospital to be suitable for the Medical Officer.

All the houses except 8, 9 and 11 are on the line, the system. The three mentioned are two storied and are the only houses fitted with central heating and with hot water laid on in the bathrooms.

The nearest barracks is a two storied building with accommodations for two companies and thirty eight patients. The barracks has two bedrooms, a sitting room and a dining room. The latter has large sleeping rooms and a work room. There are the usual attached offices, galleys, lavatories and latrine. Owing to the reduction of personnel on the island this building has been closed and the rooms transferred to the small hospital but it was used as an extension block for contacts with a view of possible special lines which occurred in one of H Q. ships, and if necessary it could be used as a hospital extension.

The small barracks is two storied. On the ground floor there are four sitting-rooms or work rooms and on the first floor a kitchen, a general store, a laundry, a dining room, a sitting room and a bathroom. It is fitted with central heating, but hot water is not laid on in the bathrooms.

The personnel is now located at the base of the island, upon a Chief Shipwright, a Chief Engineer, Navy, including two engineers and seven mechanics, a back bank Petty Officer and two back bank apprentices, a Leading Yeoman, Yeoman Assistant and a Landing Yeoman (L.L.O.). The Customs Manager is a Chief Writer and lives in the house provided for him. During the summer the personnel is increased by various ratings, supplementary back bank ratings for the hospital in addition to a medical, two engineers, Engineer Captain's boat, one a supplementary and for the rifle range, and various ratings will be sent at the station. In the summer the officers come accompanied as regards a supplementary medical officer, doctor, R.C. Chapter, and Captain of Women in charge of the rifle range.

There is an hotel on the island of the hospital type. It has 25 bedrooms and a few of these have an attached sitting room but the only one that the commandant occupies the bedroom occupies in the village, in one Park building has an extra part of the commandant's second office in a neighbouring house.

The hotel is closed up during the winter months but it is a full house, the summer. Naval officers and their families get special reduced terms which work out at 50 per cent off the rate and 50 per cent off the rates. There is a bathroom with bath tubs attached to each room. The lighting is by petroleum or petrol lamps.

The quarters for the work party live in a village known as 3rd village. It has been recently built, and consists of three rows of wooden houses and two rows of five houses. With the exception of one of the larger

area which is Colonial Government property, these houses belong to the Chinese. All of these are one-storied, and very simple, and unaccommodation. The smallest and most numerous houses have three rooms: a central room which is used as kitchen and general sitting room, and one bedroom on each side of the central room. Instead of beds, the beds are air-beds with 'kangs'. A kang is an expanse about the height of a table where walls and top are built of brick and concrete. It varies in size according to the number of people it is proposed to accommodate, and in the houses under discussion is about 10 ft. by 8 ft.

There is a small door opening into the space the kang occupies, and in the winter a fire is placed inside for the comfort and warmth of the people sleeping on top. The only opening over the kang is a length of glass running. The local Chinese expect to sleep at night on kang-chia, an ordinary bed with a mattress, great these places in the back and front, and in late June and perseverance to overcome the discomfort.

I am informed that the use of kang is a local habit, and a more or less a tribute to the Chinese practice.

As a rule two families occupy each house: the central room is common except the bedroom private.

11. Kang houses have three bedrooms. The rear of two houses is built with beds and is occupied by the Cantonese clerks. These houses are built with beds, not kang.

In addition to these there is another row of six houses close to the dockyard. Its occupants are men employed in the dockyard, whose services may be equally described such as sweeper, brew, fire brigade, hospital, police, etc. and it is consequently known as the 'military row'.

For the smaller houses the rent is \$3.42 a month, for the medium sized \$5.00, and for the Cantonese houses \$6.00. The rent is paid on the first of each month to the Naval Store Officer.

There are several other Chinese houses for the accommodation of police, masters' house, boys and others. On a small peninsula on the extreme west of the island there are sheds for the housing of the natives employed as coolies, ships or dockyard and house a miller. A great many old temporary dwellings have been pulled down and demolished during the last few years, so that it may be said that the big majority of houses are of modern construction.

Population.—The present white population of the island is 787, made up as follows: Europeans 400, male 34, female 7, children 4, total 441; Chinese 400, male 407, female 110; children 160, total 577. In summer the Chinese population is probably doubled, and the Chinese increased by about 40 per cent.

Hospitals.—The Royal Naval Dock Quarters is composed of two parallel one-storied rows with a covered bridge between them. The front row contains a consulting room, four officers' cabins and a mess; ward of seven beds. The back row is a bit three wards with seven, seven and eight beds respectively. The total accommodation is for four officers and thirty-eight men.

There are two small stores attached to the hospital, treatment and reception rooms, storerooms, an operating theatre, dispensary, room used for photography and the work of the radio laboratory, gallery, washrooms, and sanitary. There is a block of three storeys detached from the main building.

Electric light is laid on and is supplied by a dynamo driven by a petrol engine. The storage batteries attached had become worn out and practically useless and are being replaced this year by a new installation costing £1500.

The theatre and dispensary have covered heating and have hot-water taps, but there is no hot water laid on in the bathroom.

The Chinese staff consists of a senior two males and four females. The latter are employed at general cleaning up duties but personally for the transport of water.

As already mentioned a small house with four rooms is in use as a dynamo block. During 1924 two cases of dengue, one of diphtheria, and one of measles spread from spots treated on it. These cases occurred occasionally, so that the building was regarded most of the summer.

There is a large stone discharge in the dockyard.

There is a Chinese hospital about half way along the southern shore. It has four rooms or wards each fitted with two beds, an operating theatre, a dispensary, a mortuary, and two store rooms. The staff consists of a Chinese doctor and a cook, a midwife. The former has no diploma but is efficient, and is exceptionally good on an amateur basis. He attends to all the minor injuries and ailments amongst the Chinese but calls upon the Naval Medical Officer for the more serious cases. His establishment is a fine house, 8000 masts paid by the Colonial Government, and employing his own cooks in private practice. It is said he wishes that even amongst one or two servants and Chinese hospital staff he is called on as a professional in the 'foreign doctor'.

Prison.—There is a prison on the island for the retention of prisoners from all parts of the territory. The length of the term served varies from a week up to two years.

The prison has sixteen cells. Two of these are for women and two are dark cells for solitary prisoners, so that there are actually twelve cells in constant use. Each cell holds four prisoners. The average number of prisoners is about twenty. The staff of the prison consists of a European inspector or clerk who is also in charge of the police, six male and one female warders.

The prisoners are employed in maintenance of roads and general work over the island, when at work outside the prison they are usually chained in pairs. It is a hard-work job that the water punishment a prisoner can receive is his discharge. There is no trade in the institution for they are supplied with such things as rice. It is of interest to note that the prison was built by the South African Government at the time Chinese labour was employed on the Road, the intention being to use it as a prison for offenders

in the latter camp. Sashbury's large-scale camp on the mainland was built for the last days of the island and good use was made of it during the recent war when our Chinese labour corps was sent to France.

There is a constabulary police on the island. They and the prison wardens are members of the late Franklin War regiment and most of them have the B. M. B. M.

The H. M. B. M. police are now recruited from Wai-Kan-Ma and with 150 of our police may still there before being sent south. The reasons for this are principally because the northern Chinamen of better physique and partly that there is less chance of conscription when the policeman is not recruited in the district in which he serves.

Clubs.—There are three clubs on the island open to residents and permanent visitors, the United Service Club, the Golf Club and the Recreation Club.

The United Service Club was originally the club of the Chinese Island and has well. Additions and alterations have been made by successive regiments of naval officers. Only social and military officers of command rank and below hold members and general regulations are made by honorary members and visiting members.

There is a bar in it and the subscription is £5 a month. The bar is open only when the captain or a person in the port and is proportionately reduced each successive month. The principal rooms are a bar, two reading rooms, an officers' mess, a bar, a library, a billiard room and two bedrooms. General practice may meet at a fixed hour. There is a ladies' night meeting with the maximum accommodation in regular power or dinner limited to the large reading room. There is a weekly given by the band on the 11th of May being that a symposium is organized.

The Golf Club is on the eastern tip of the island. On the 11th of May the hole was struck by the naval club range on the eastern they reach the sea.

There are nine holes the 11th hole is the best and several with the best. The hole is said to be the best on the Chinese Island.

The bar is open to all naval and military officers, including warrant officers, but visiting powers are limited to officers of warships only.

The subscription is £5 a month and the subscription is £5 a month. General rates are made for temporary and visiting members.

The Recreation Club is on the western end of the island and was founded by the Chinese people. It includes an outdoor tennis court, a swimming pool and a cricket pitch. The subscription is £5 a month for members and £1 a day for persons others. There is an entrance fee.

Each of the three clubs has its own president and committee. The president and committee and the committee is formed by a representative of members and it is each day. Frequently, but not always, the committee is formed by the committee of the three committees.

The Chinese Club is situated about the middle of the island and is generally a temple.

The engineering department is in charge of a C. E. R. A. and has a workshop, one machine shop with power supplied by a steam/hydraulic steam engine. There is also a smithy and a welding room.

The stores department is in charge of a Chief Steward (and his assistants) a shop and a warehouse.

The Works Department is in charge of a master known as the Works Department Clerk but previously all the stores which came under this heading are let out to local contract.

The Naval Stores Department is in charge of a Deputy Naval Store Officer who is also master. He is assisted by a second grade clerk, a store lieutenant and a leading watchkeeping assistant, with a Chinese staff in addition.

The watchkeeping department has been disbanded and all naval stores are no longer maintained but the dockyard is still used as a depot for watchkeeping stores shipped by freight and arriving delivery to B. M. ships.

The Naval Store Officer makes the local contractors for coal and supervises supply of beds provisions in ships passed on the port. He is also responsible for the coal loading of the fleet. There are no oil tanks but there is a tank of kerosene and petrol for use in ships for their motor boats. There is storage accommodation for 12,000 tons of coal under cover. The amount actually in stock varies from time to time and includes both kerosene and White coal and perhaps it is impossible to maintain the storage. Officers are disembarked and the smaller ships called at the deep water end of a long pier and wooden post-ships with a deeper draught are loaded by lighters.

The pier has a T shaped end and is 555 ft. long and 32 ft. wide. It is fitted with two pairs of rails for trolleys but the leading coaches prefer to use trolleys holding 2 cars along on a banded path. The depth at the T end of the pier is 35 ft. at low water.

The boats in charge are one steam pinnace, two 36 ft. pinnaces, one 40 ft. launch, two whalers, one big two man lighters holding 150 tons each and three smaller lighters holding respectively 300, 200 and 200 tons.

There are five mooring buoys, three of these are used by ships and two by tugs.

There are two cranes for cargo, one a Merryweather & weighing 250 gallons a minute, and one "Valiant" discharging 180 gallons a minute.

There are two water mages each discharging the capacity and of the other they are fitted with eight tugs on a Jeffrey frame. On one the maximum flow point is at 1,000 yards on the other at 800. There are also three smaller mages.

Commissaries.—The naval commissary is on the top of a cliff on the eastern end of the island. It is maintained in good order by the Works Department. There is no gas storage and at present the office are supplied by a large of the domestic supplies.

There is a small European civilian commissary and a large Chinese commissary in the centre of the island.

Opinion.—There are no diseases of any kind (aggravated) owing, perhaps sometimes known as Wu Hsi-Wen were there. I have had two patients or if a third 1933 but am informed that it was a folk-lore or illiterate condition complicated by actions in the work. The last I remember was suggested. Many theories were put forward regarding its etiology, the most probable seems to be that it was caused by the diet which consisted in demolishing old Chinese dwellings. Only one of these required demolishing in 1933 and this was done early in the spring before the influx of seasonal visitors. There thus can prove whether the theory mentioned works or not.

There was only one case of measles, dysentery during 1933, which could be definitely said to have been contracted at Wu Hsi-Wen. The patient was an English officer from one of H. M. ships. He had been most indiscrete regarding his dietary and had never eaten strict hares, cooked or uncooked in the Chinese manner.

There is no opportunity for seasonal diseases to be contracted on the island but there are fevers and pruritis on the mainland. The mainland is not so hot as before the war of Peking-Tientsin. Diseases of the respiratory tract, especially, were and the offender usually carries the evidence on his face.

Five children, a girl and four boys, have been reported from the mainland. All except one of these are definitely known to have been imported.

A well organized system of vaccination is in force on the island, in that vaccination has become so popular amongst the Chinese that local authorities have to be warned from having the child as they regard it performed too frequently on their offspring.

There is no malarial, but mosquitoes of a most bloodthirsty type are plentiful. There are pools, and pools on the island which are sprayed with kerosene in a routine during the season. The general impression is that the mosquitoes breed in the sea water in an enclosed shelter and that, are certainly more numerous in the houses nearest the coast. Mosquito nets are necessary for comfort and a good night's sleep.

Surgery are busy seasons, during 1933 three patients required treatment for their stings.

The island seems remarkably free from rats and mice. They are probably killed off by the numerous mongoose cats which patrol around.

Conclusion.—Without attempting to give any historical account of the issue of Wu Hsi-Wen and the conditions under which it was quoted, it may be of interest to give a summary of conditions as they now stand regarding its return to China. During 1933 a Sino-British commission came to an agreement which in so far as it affected the Admiralty gave a lease for ten years of certain buildings and grounds with the option of renewal at the end of ten years.

There were the terms published in the *Peking-Hankow Times* of September, 1933, but so far as one can gather the agreement has not had the necessary signatures and regulations are still out of order.

Human Medical Teachers of the U.S.

SOCIETY OF AMERICAN ARCHITECTS

© 2004 Blackwell Publishing Ltd *Journal of Internal Medicine* 255: 105–111

© 2000 Blackwell Science Ltd *Journal of Internal Medicine* 247: 111–116

¹ *Journal of Chemical Physics*, paper dealing with a case of synthesis of the chemical and isotopic data are published in *Rev. Inorg. Chem.* 1974, 24, Springer-Verlag, Berlin, 11; Carl Rüch and T. Hoyer, *Rev. Inorg. Chem.*, to be published.

In a general introduction, C. still stressed on the importance of increasing the scientific and final – which were already an aim, and therefore rather of descriptive – scientific understanding of the nervous system.

With reference to treatment he was convinced that initially in the heavy and middle third of the country, 50-100 mg given in multiple dosing, was the best way to treat the disease. He did not agree with any cases at Hradec which showed resistance of high doses of these drugs, when given at variable intervals. While only low to moderate multiple dosing was shown in the early stages of the disease, some rather low dosages were given in later stages.

Each bull grew up in limestone hill country of Texas, an individuality (genetics, nutrition) differing from early environment of the nervous system with the result that in a few cases it found the satisfaction of observing the Wangs as they, in various ways, interacted on the landscape around him.

A later experiment by Harber proved that a large proportion of cases of neurological disease were directly caused by syphilis. Thus of 950 men, 40 years of age or older, of all races, the neurologic cases were caused to be related to 150 or 25.2 percent.

In the main paper I offer a broad an introduction to the pathology of systems of the natural sciences system. The author considers that process as a whole, he doesn't follow statements by making them as full

[illegible]

violence that characterizes it, and results never, leading to necrosis and the formation of a large abscess.

The characteristic of the process in the early and intermediate between a secondary and a primary lesion is the 'secondary stage,' lesions react to a certain extent despite a variety of causes. In the tertiary stage they react negatively, so the idea of cure is that a much larger lesion is produced by a much more violent infection. In some persons suppuration may occur sooner than in others, sometimes 'primary,' so type may be based on what occurs, but of age in the 'secondary stage.' In fact the suppuration may develop without any intermediate 'latent stage' and the secondary may proceed directly from primary manifestations.

The typical site of the tertiary lesion in the body appears to be more or less a matter of accident. From work which has been carried on for several years at the Lying-in Hospital it is clear that the suppuration is in the walls of the large blood vessels. Of all the suppilates lesions found in the post mortem series there are few the suppuration is not the pump-like in to prove that it may be, and that any lesion has a positive. Furthermore, research has no discoverable manifestations of suppilates has almost exclusively a suppilates series.

Again, tertiary lesions in the skin, bones or internal organs are due to extensive suppilates following upon the suppilates of suppilates which have followed in the walls of the blood vessels during the stage of primary lesions.

The General Pathology of Syphilis of the Nervous System

Syphilis of the nervous system does not differ in any pathological essential from syphilis in any other part of the body.

In the early stages when the virus is penetrating throughout the body, the nervous system is thus involved. The walls of the capillaries of the brain and spinal cord are attacked as in other parts of the body. In fact, the nervous system is a serious source of cellular infiltration at the meninges, in other words a suppilates meningitis, and this may be detected on the vessels spread found by an increase in the number of cells. Histologic evidence in the stage of suppilates and tertiary stages of syphilis nervous lesions may also be detected. Lesions with the appearance of the walls of the body a suppilates lesion may occur in the meninges.

This meningitis, in the tertiary stage of syphilis is of importance in connection with the treatment because if a reaction takes place in the meninges it may take place in the brain (microscopic) nervous lesions may follow.

During the same general stage of the suppilates which have attacked the nervous system are destroyed as in other parts of the body, but some may be left, and in very rare cases lesions which have been subjected by the suppilates in the early stage will become organized. If not so, suppilates of suppilates takes place in the brain, tertiary lesions will develop like the 'latent' type of the 'latent' disease will differ widely according to the nature of the lesion which is chiefly affected.

It must be understood that the brain is an organ almost unique in the body in that any lesion which breaks in the nervous system is almost certain to lead to symptoms and lesions, if an infection is sufficiently great to lead to the death of a cell the function will never regenerate. Large areas of injury or loss of tissue may be destroyed without causing symptoms and even lesions of long cells may develop to replace those destroyed. It, however, we are of nerve cells (nervous) attacked they will degenerate and their function will be permanently lost. The result is a smaller organ. An acute parenchymatous condition is always followed by atrophy and permanent loss of the parenchymatous function. The presence of three highly specialized cells in the nervous system results in two local types of disease in the brain during the tertiary period:—

very few, a severe thrombotic process is usually developed, in the cerebral vessels, such as the supratentorial processes giving meningitis, etc.

(4) That in which the subarachnoid process is developed chiefly in the cerebellar surface into meningitis, etc.

The first type, supratentorial meningitis (meningitis), the epidemic, non-epidemic, of Heel and Trousseau, includes all forms of cerebral epidemic meningitis, epidemic typhus, the malarial and other many forms of meningitis.

The second type, peritubercular meningitis (meningitis), the epidemic, malarial, tubercular, includes "pure" epidemics, latent tubercles, disseminated, purulent and other more local infections of ganglionic cells.

The general pathology of these two types of disease is the same. Each is negatively the least extension of the lesion in the acute stage of epidemic typhus leading to a local meningitis. Some epidemic typhus is so severe the walls of small blood vessels in the meninges, while others less organized, further still and have penetrated into the nerve masses. If an arteriole enters in the meninges a local proliferation of cells takes place and produces the lesion known as granuloma. Two of the granulomas are situated among 10-15 nerve cells and the lesion will become organized and, having the power neither of producing nor causing they will degenerate and continue to degenerate or after 25-30 treatment by the treatment break of the disease.

As a result of this degeneration the function of a large number of nerve cells is irreversibly lost. Some of these lesions may be considered as contained symptoms and then these lesions will cause death, organ or later, and then in spite of the fact that the typhoid infection may have been cured.

With regard to the malarial epidemic typhus (malaria typhus), then degeneration 24-48 hours is sufficient to cause a lesion and therefore lesions have been well and may cure the epidemic, but when the symptoms of malaria (fever) with a case will appear in 1-2 days, P.F.I. and similar treatment is required. The epidemic process will appear and eventually resolve the period of acute disease. The case will then subside and then 10-15 P.F.I. in the pathological sense as well as in the clinical sense.

The problem, therefore, as in epidemic generally is to arrive at an early diagnosis and to give early treatment.

Calkins' classification of epidemic nervous diseases, based upon the work of Heel and Trousseau, published in conjunction with the pathological work of M. J. J. and F. J. J. is as follows:—

- (1) Secondary epidemic of the nervous system. Meningo-vascular.
- (2) Primary epidemic of the nervous system. Meningo-vascular epidemic of brain and spinal cord meningitis.

(a) Tubercular

(b) Diphtheritic purulent

(c) Tubercular

(d) Epidemic meningo-encephalitis

Intensifying meningo-encephalitis also were noted

(3) Secondary meningo-vascular epidemic with involvement of central cortex.

Less distinctive the rapid involvement of the nervous system after infection with epidemic.

One 1911-12, J. and J., who admitted generalities in 1910, but who denied having had epidemic, was attacked in December, 1911, and remained in good health until March, 1917. He then developed double vision and had severe headache.

(1) *Leucocyte and Erythrocyte Counts of the Serum and Urine*

Julius Demuth—In six out of seven cases in his Carlill's observation, one of these men had neither the serum nor the cerebrospinal fluid examined. In three other cases the serum gave a positive reaction, but the fluid was not examined. In six more urines and cerebrospinal fluid gave a negative reaction. Of the remaining seven, one gave a negative reaction in the serum, but the reaction in the fluid was positive and there were lymphocytes. Three gave a positive serum reaction, but a negative reaction in their fluid. Lymphocytosis was present in two of these cases. One of these had received modern treatment. The rest of the cases gave a strongly positive Wassermann reaction in serum and fluid, with a lymphocytosis.

The ages of the patients varied from 28 to 64, except in the case of two patients with previously taken dorsals, aged 15 and 21 respectively.

The cell counts of the fluids before treatment varied from 18 to 546 lymphocytes per cmm. In no case did treatment by B14 or its derivatives lead to a reduction in the number of cells.

In six cases out of forty on the knee and ankle joints were normal. In no case were the knee-joints absent and the ankle-joints present, but in one the knee-joints were atrophied and the ankle-joints bony. In four cases the knee-joints were bony, but the ankle-joints absent, and in another case the knee-joints were bony, but the ankle-joints atrophied. In the remaining cases the knee and ankle-joints were all absent.

In three cases the pupils were normal. Deep anidrosis was found much more commonly than ectodermic anidrosis, and in only one case was it absent. One case had double nerve deafness as her only symptom, and in one case laparotomy had been performed elsewhere for symptoms which were doubtless due to her nervous disease. In one case the patient had been treated for many months for severe genital pain before the case was discussed. Another man was selected as a case of intestinal obstruction because he had been hospitalized for ten days. On two occasions elsewhere he had been hospitalized in order that a focal infection might be removed. His diet was not characteristic of these cases. In only one instance had the patient received B14 before he came under observation.

All the men had been at full duty either at home, up to the time of admission. The release of war duties in the most of symptoms was thought to be because, but in Carlill's opinion the evidence pointed to the fact that men in busy cases precipitated the disease.

In his experience intravenous injections of B14 was reliable for the relief of lightning pains and also for their total return on the body and on the central organs in particular. Improvements and restored responses were partly improved by this treatment.

Fifth point—Carlill pointed out that the only marked deterioration through cases of taboparesis and most of disseminated paralytic in the absence of vesical reflexes in the former. In demyelinating paralytic, there

reflexes are usually exaggerated. Eight cases of triceps-spina were seen, these ages varying from 25 to 55.

In one patient the knee-jerk and one ankle-jerk were normal, while the other ankle-jerk was absent. One case had Charcot's disease of a knee joint. In six cases the serum and cerebrospinal fluid gave a positive Wassermann reaction, and the fluid contained a lymphocytosis. Of the other two cases, the serum was positive in one but the fluid was not tested, while in the other the fluid gave a positive reaction and a lymphocytosis but the serum was reported to be negative.

Two patients were sent to Harrogate and five were able to go home. One patient died in the hospital from sepsis. No autopsy was obtained.

General Paralysis.—Twenty-eight cases were observed. The Wassermann reaction of the serum was strongly positive in every case. Of the twenty-five cases which were lumbar punctured all gave a strongly positive reaction in the fluid. The pressure of the fluid was never increased. The lymphocytes estimated before treatment numbered from 22 to 163 per c.mm. The age of the patients varied from 25 to 65, seven were 51 or under. Eleven patients were certified and sent to asylums, the remainder went home. One case was associated with senility from time of the onset.

In two patients the knee and ankle-jerks were normal. In the remainder the tendon reflexes were exaggerated but in no case was the plantar response elicited, except during, or for a short time after, a fit.

Fits occurred in six cases. One patient was admitted on a fit and two others had attacks while under observation.

Delusions were comparatively infrequent. In all but one case the hallucinations were suggested. In only one case was any abnormality detected in the cutaneous sensibility, but impairment of deep sensation was frequently observed.

Careful head examination upon the last day, when death occurs, before the organs have been examined, a specimen of blood can be obtained by puncturing the head with a needle. In his opinion death is not instant for reaching to examine the cerebral spinal fluid.

The technique of lumbar puncture was as follows. Every patient was punctured sitting on a chair. A few patients with normal dentures had a previous hypodermic injection of novocain and novocainum. The site of operation was cleaned with ether and sprayed with ethyl chloride. Four needles of platinized silver were used and two were always prepared. A small glass syringe was attached and served as a handle to the needle. It was also found useful in reaching through the needle above the opening. The puncture was made below the fourth lumbar space in the following manner: if a vessel was suspected the needle could be withdrawn and inserted at a higher level, where in most cases the fluid was found uncontaminated with blood. With the needle within, novocain and blood was withdrawn and with. The puncture was always allowed to be drawn for a few hours after.

gives a large volume of fluid which is expelled, with a corresponding increase in the opening of the cone.

The solid area of the Thoma-Like hemispherical consists of various large squares. Each large square is divided into sixteen small squares. The side of a small square contains $\frac{1}{2}$ mm. The tube of the microscope is adjusted so that the field of the $\frac{1}{2}$ in. objective has a diameter equal to eight times the side of a small square. (See diagram.)

The area of the field is then practically equal to that of the small squares.

(The area = $\pi r^2 = 6$. The area therefore = $\frac{11}{9} \times 18 = 22$.)

The field of the $\frac{1}{2}$ in. objective is adjusted to this area, and the tube length noted for use in future counts. The standard fluid being in the counting chamber, the tube of the microscope is drawn out to the required length and the necessary table is consulted. The number of cells in fifty fields, multiplied by two, gives the number of cells per cubic millimeter.

When not in harmony with the method and the correct tube length is ascertained cell counts can be performed in a few minutes. Should there be very few cells present a still greater degree of accuracy can be secured and 100 instead of fifty fields can be counted.

Chemical Notes

Five hundred and eighty-seven cases of chemical notes were treated as Hader. Forty-two of these (1 per cent.) were revealed.

Most of the cases revealed were the chronic spreading type of chemical which for long periods of time reveals all signs of leishmaniasis.

The present writer came to the conclusion that he had more success with the application of copper sulphate crystals. The crystal was rubbed into the sore daily, or if local reaction was severe on alternate days. Between the applications it was found essential to continue to keep the surface of the sore dry with dusting powder. Very few cases failed to respond to this treatment. In the more chronic cases treatment is protracted by Surgeon Commander E. J. Connel sometimes producing excellent results. Violet rays were used as an adjunct to the treatment with apparent benefit. Surgeon Commander Langhale obtained good results in very chronic cases by the application of violet rays alone.

The treatment recommended by C. H. Mills, namely, the frequent application of saturated solution, was used in numerous cases in some of which it was undoubtedly successful, but was more so than the copper sulphate. Types of cases were met however, which defied both these and other methods (including urethane). Such cases were revealed.

During the two years 1914-1920 the writer had exceptional opportunities for forming an opinion as to the comparative value of the various operative measures for the cure of recurrent lesions of recurrent ulcers. In his opinion two types of operations were called for and these both elicit a serious amount of post-operative reaction and are unduly protracted.

When the lesion was "ripe," no glands being palpable beneath the ulcer, a fine incision was made involving both one end of the ulcerous margin to the other. After completion of the incision the finger could

and he particularly noted the following changes in discharges: (a) They were enlarged as a function of the extent of involvement etc. (b) pus, when there appeared pus, until the cavity was empty. It was then usually found that the clot tended to fall in towards the face of the empty cavity. The last stage of the operation and in the opinion of the writer the most essential one, was the closing away with sutures of the whole skin following the line of junction of the skin with the face of the cavity. The change was then converted into an open fist wound which usually healed in four days to six weeks. The smaller suppurating lesions invariably healed in less than three weeks.

When the glands were enlarged, the whole mass was completely excised. Postoperative attention was always paid to the deep glands on the inner side of the groin, which drained down to the femoral opening; these were removed to their entirety. No trace of gland substance was left. The internal excretion was constantly required light and darkness. If the glands were suppurating the wound was left open, and if the cavity attacked widely under the skin the latter was completely cut away as in the operation already described. If on times of pus was encountered, and the skin was healthy the wound was closed and a large rubber drainage tube inserted.

DISCUSSION.

The number of beds available at Madras for uncomplicated cases of gonorrhea was seldom large. Of the 4,417 cases treated, the majority were complicated. In the years 1912 to 1915 the cases of uncomplicated gonorrhea did not increase to the same extent as did the syphilitic mass, mainly because they could not be removed into hospital. The following figures demonstrate this point:—

Year	Gonorrhea	Syphilis
1912	480	1,187
1913	579	2,268
1914	718	2,528
1915	581	2,974

The routine treatment of uncomplicated gonorrhea as carried out at Madras may be summarized as follows:—

- (a) Rest in bed during the acute stage
- (b) Posterior excretion
- (c) General medical treatment

At the end of November 1917, the writer treated a series of cases at Madras by intramuscular injections of potassium permanganate, combined with posterior irrigation. A solution of 1/1000 in normal saline was prepared by adding 21.8 gr. of the potassium salt to a pint of saline; this was passed in a steady flow and discontinued afterwards being put up as rubber capped "cannula bottles." One cc. of the solution was injected into the muscles of the buttocks. No local or general reaction occurred. The dose was repeated at intervals of two or three days. Stronger solutions may also

conclusion. The results also did not show any overall difference in the mean number of cases caused by *erysipelas* between the treated and untreated groups. Professor C. van der Pluijm, of the Streeklaboratorium, Dordrecht (H. W. de D. J. van), had an extremely favorable opinion of the treatment. He considered that certain cases, of epidemic type, were benefited that the acute stage of epidermids was quickly relieved, and that the treatment generally was worthy of continued trial. He hoped, as did the writer, that the experiments were practical and gave rise to no local or general

Parrell tried passing the authors with grease soaked in a work clothes of pretreated. The chance of others in to the remarkable benefit of their own of local institutions were not subjected by his experience. The grease work did not cause pain, nor did it dam up the discharge, but prolonged peeing was found to be impracticable in nearly every case owing to the numbness of the urethral meatus. In cases in which the peeing had to be withheld the discharge stopped. In one case hemorrhage was a troublesome complication. Autopsy showed a rare case of prostatic neoplasia, which did probably and which presumably, did not assist behind the peeing. The number of cases treated was not very large, the success found was unfortunately.

Various tests employed an object as numerical cues. In some of systems, selection methods do) where operators provide, manage, indicate local, general message and increase all lowest part of the treatment, it was difficult to estimate the true part played by various. Besides on the whole was disappointing.

Drugs as a specific for gonorrhea were considered a failure. They were not available at Hanoi, except for the treatment of tubercular gonorrhea.

Cordell's new microscope was introduced by the writer and found to be more efficient and less cumbersome than any other instrument he had ever used in his work.

No side complications were observed. It was found necessary on only one occasion to perform an internal urethrotomy for stricture; all other cases of stricture being dealt with by dilatation with bougies or Kolomoys dilators as far internal as the room was permitted through the urethra.

So record of the unusual work at Hinder would be complete without reference to the remarkable help rendered by "Nurse Lieutenant" Com. member P. Miles OBE RNE. Since her return was lent to the Navy by the Medical Research Council. Though burdened with the duties of histologist and pathologist to the hospital, and engaged in research on cancer spread from and influence, he valiantly devoted himself to further laboratory work in the research department. His energy and enthusiasm inspired others with zeal and enabled them of us who were privileged to co-operate with him to be gratified in work which was in its execution a pleasure and in its results an achievement. The Naval Medical Service will always be grateful to him for the service he rendered to the progress of our knowledge of cancer.

Obituary.

THE JOURNAL OF THE ROYAL NAVAL MEDICAL SERVICE joins with the publication on a period of personal mourning. This is more spent on the retirement of Surgeon-Commander Burke from the post of Managing Editor owing to his appointment to another sphere of duty. We feel that his retirement is a real loss to the Journal, and desire to express to him our profound regret at his long-lingering resignation.

As Managing Editor the greater bulk of the work associated with the running of the Journal fell to his lot, and it is only just to him to say that the present efficiency of the Journal as representing our Service is largely due to his efforts.

During his tenure of office—now over four years—he has devoted his energies to placing the Journal on a sound financial basis by enhancing new subscriptions and by increasing the number of advertisements. His success has been great.

We hope to succeed further in such a good land and, with the help of our subscribers and contributors, feel confident that we shall. The loss by compulsory age retirement of many of these is being felt and will, we fear, be still more felt, but with the aid of the entire profession and their spirit of co-operation the Journal should follow.

In bidding farewell to Surgeon-Commander Burke we, and also on behalf of our subscribers, wish him every success in his new appointment as Senior Medical Officer in Charge of the Royal Naval Hospital, Great Yarmouth.

Clinical and practical Notes.

1. CASE OF ACUTE LEUKEMIA.

Dr. GEORGE JOHN HENSON, F. R. C. P. S. (M. D. N. S., 1904).

Senior Lecturer, Edinburgh N. S. GEORGE M. D. (M. D. N. S., 1904).

The following notes of a patient selected from the point of view of aetiology, diagnosis, pathology, and also as a sample of the fact that as far as a rule, it is only in R. M. Hospital (Edinb.) was observed, and also has been previously reported. It is a case of acute leukemia, was observed in R. M. Hospital (Edinb.) on December 26, 1904.

History.—Patient was at home on leave, and on December 14, 1904, he suddenly developed what he described as small lumps, two on each side and one on each side of each leg below the knee. The lumps did not change position on both knee joints and felt a little stiff. The local medical practitioner was sent for and diagnosed the condition as one of acute leukemia.

Four days before patient's death his mother gave the following statement of information that the first symptom of the illness was the swelling of the feet and ankles.

Present History.—Patient had always been well until two months ago when he returned from service in the Mediterranean. He made no definite complaint but said he did not feel as fit as he used to. The changes which he described in the Mediterranean.

Family History.—Mother, father, three brothers and one sister were and apparently well. Grandparents healthy and long lived.

Condition in Edinburgh.—Temperature was 101.2° F. pulse rate was 92. Patient complained of a feeling of weakness, pain in the epigastrium, slight pain in both knee joints, loss of appetite and slight cough. On examination of legs revealed a series of small nodules on the anterior aspect of each leg. They were firm, tense, tender on pressure, and of a very dark red colour. A few small scattered purple papules were noticed on the front of both thighs and chest. There was very slight enlargement of the lymphatic glands and they were tender on pressure.

Weakness.—There was slight tenderness in palpation over the epigastrium. There was no enlargement of the spleen or liver.

Chest.—Lungs—examination revealed nothing abnormal. Heart—open heart could be palpated, just outside the left mammary line. Heart sounds appeared good and no murmurs were audible.

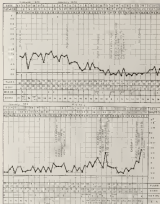
Progress of Case.—Eight days after admission the treatment of both legs had cleared up and weakness of the limbs and the general condition had also disappeared.

January 2, 1905. Purple erythema appeared on the face and spread to both cheeks. A dark purple erythema appeared on the neck and extended to the wrist.

The purple erythema began to fade five days later and by January 14 there occurred only a slight brown pigmentation of the skin. Patient was now complaining of itching, much of slight loss of appetite and pain in the epigastrium but with no relation to the taking of food. Very slight swelling from the legs was now seen and when one thought of moving the ankles appeared to be of a slight normal nature. The pressure of blood was reduced by diuretic means. The skin was now of a healthy brown but erythema being faded of colour. Small red suppurative hemorrhages appeared on each eye. Stomach was fairly clean, pale, moist, and presented no marked changes.

A blood examination was carried out with the following results:—

(1) Red blood cells	4,000,000 per c.mm.
White blood cells	5,800
Hæmoglobin content	85.0 per cent
Colour index	1.7



Examination of stools revealed no occult blood. No enlargement of spleen. February 26. Patient complained of headache and a feeling of shivering and coldness of both legs.

From this date the general condition appeared to improve slightly. Senses continued to blend at times—edges of objective glassless.

February 20. Sphincter area of abdomen now improved and edge of sphincter was just palpable at edge of left costal margin.

February 21. Complaint of sudden weakness at night in the right eye. Optic ataxia—constriction of the right pupil revealed the presence of new lentic haze and two or three smaller retinal hemorrhages under slit. The left eye appeared normal. Eyes examined on the day showed presence of stain at left sclerotic and iris edge. Examination for presence of blood gave a negative result.

February 2. Blood examination:—

(a) Red blood cells	1,800,000	per c. mm.
White blood cells	17,000	
Hemoglobin count	65	percent
Color index	1.0	

Patient was taking more food and appearing better.

February 4. Complaint of pain and swelling near the right breast under axilla. Ulcerative gangrene was noted.

Condition did not improve. Irregular system of paroxysms.

February 10. Patient had slight heart failure.

February 12. Paroxysms repeated.

Blood examination:—

(a) Red blood cells	1,500,000	per c. mm.
White blood cells	22,000	
Hemoglobin count	50	per cent.

February 13. Condition worse. Examination of left leg revealed small and large hemorrhages at scars and along vessels from the dist. Sphincter—edge not now palpable below the left costal margin.

February 15. Status of symptoms. General condition much worse.

February 16. Symptoms progressively worse.

Blood examination:—

(a) Red blood cells	715,000	per c. mm.
White blood cells	26,000	
Hemoglobin count	50	per cent.

Evening of February 16. Patient became unconscious—breathing was quiet.

February 17.—Patient died at 6:15 a.m. having remained unconscious for a short period prior to death. The duration of the disease was eight weeks.

The Examination of the Blood.—Bleed of blood was obtained on four different days and the results of the following counts were as follows:—

Leucocytes, 4,000 (per c. mm.)	Neutrophil polymorphonuclears	27.5 per cent.
	Large lymphocytes	54.0 "
	Small lymphocytes	10.0 "
	Monocytes	0.0 "
	10 eosinophils	0.0 "
	Large mononuclears	0.0 "
		100.0 per cent.

There was slight anisocytosis and two or three myeloblasts were seen.

February 1.—

1,000 cells, 17,000 (per cent.)	Neutrophil polymorphonuclears	80.0 per cent.
	Neutrophil lymphocytes	10.0 "
	Large lymphocytes	5.0 "
	Small lymphocytes	3.0 "
	Eosinophils	2.0 "
	Basophils	2.0 "
	Large mononuclears	2.0 "

100.0 per cent.

No nucleated red cells seen.

February 11.—

1,000 cells, 50,000 (per cent.)	Neutrophil polymorphonuclears	8.0 per cent.
	Large lymphocytes	55.0 "
	Small lymphocytes	1.0 "
	Basophils	0.5 "
	Eosinophils	2.0 "
	Large mononuclears	2.5 "

100.0 per cent.

February 14.—

1,000 cells, 20,000 (per cent.)	Neutrophil polymorphonuclears	1.0 per cent.
17,000 cells, 400 (per cent.)	Large lymphocytes	55.0 "
	Small lymphocytes	1.0 "
	Basophils	0.5 "
	Eosinophils	0.5 "
	Large mononuclears	2.0 "

100.0 per cent.

Leukocytes were present and a very few nucleated red cells were seen. Neutrophils, the rather low leukocyte count in the early stage of the disease, were somewhat increased in the number of leukocytes as disease progressed as in February 11th. The leukocyte count in the smears shows a very high degree. The highest count of leukocytes was 55,000 per cubic millimeter—and as high as the concentration of leukocytes. As far as the diagnosis was concerned, there was no doubt as to the nature of the disease. The usual pathological type was very definite. The diagnosis from the first blood examination the diagnosis of leukocytosis could have been possible. The blood picture was a normal one in that there were very high values when counts were taken, and the presence of some of the leukocytes. The leukocyte count was in the low range, although the percentage of lymphocytes was high in the beginning. The picture would therefore be that of a case of leukocytosis.

Leukocytes were seen in a group of cases which have the leukocytes of both acute and chronic and of peracute nature. The picture usually presents the same as in the case of the acute case.

According to Ellis and Hollander (1931, p. 50) the word "leukocytosis" means a count of 10,000 or more of leukocytes in a cubic millimeter of the blood plasma of a healthy animal. In some cases of acute lymphatic leukemia the leukocyte count may be as high as 100,000 per cubic millimeter. In some cases of leukemia the blood plasma is typical and leukocytes with the condition in a case of a rapid nature.

The neutrophil polymorphonuclears were much reduced in number in the

lymphocytes, and showed a rapid decline in numbers towards the termination of the case. In most the granules stained heavily and were distributed in masses. There was throughout a total absence of thrombocytes and leucocytes. All the remaining cells amounting to from 50 to 75 per cent of the total leucocytes in the various smears were stained together as lymphocytes of the large type. They were, almost without exception, large cells of non-granular type. They were large mononuclear cells with large, round, non-granular protoplasm. It might be said that the typical type of this polymorphous cell is of pathological interest only, but on the differentiation of type depended the classification of the case of leukemia.

Were these cells large lymphocytes or monoblasts?

Example (1), who has already and described as leukemia, stated that the nuclei of these cells possess three or four nucleoli those of lymphocytes never more than one. In general the organism is a larger cell with a greater body of protoplasm than the lymphocyte.

There was considerable difference of opinion as to the nature of differentiation, and Schöber (2) suggested that the chemical behaviour of the cells might afford a more means of differentiation. In a case of leukemia (acute) Schöber found that the majority of the cells though clearly non-granular gave the characteristic reaction.

In the present case the cytochrome reaction was not. The method was first described by Fiedler (3) in 1898. Since in the Quarterly Journal of Science (April, 1904) vol. 1, No. 10, and for the correct application of the test we are greatly indebted to J. W. Mellor M.D., D.Sc. M.R.C.P., Medical Officer, Guy's Hospital.

REMARKS ON DIFFERENTIATION OF GRANULAR LEUKEMIA

Slides were fixed by immersion in 1 per cent. osmic acid for two seconds. They were then washed thoroughly in running water for ten minutes and brought into a mixture of equal parts of dimethylglyoxylylbenzamide, 1:2 to aqueous solution and after repeated extraction aqueous solution for periods varying up to half an hour. The blue crystals were washed for a few minutes in running water and mounted on slides in a mixture of equal parts of commercial water-glass and tap water. Several slides were worked in this way, others a drop of the staining of the polymorphous form, or by the reaction of malachite in these preparations. The results in terms of the cytochrome reaction in various portions of these cells.

In the case of monoblasts the cytochrome reaction is positive in the 2 and 3 and 4, and is positive in gradually varying degrees in different examples, a fact which may throw the idea that monoblasts form of many varying degrees of maturity more often be represented (1).

The cytochrome reaction in these from the present case was completely negative. The case therefore was either one of acute leuc. lymphatic leukemia or a nodular chronic leukemia with very immature cells.

From the blood countings on February 25 it will be seen that the total leucocytes had fallen to 30,000 per cubic millimeter. A few scattered red cells had also appeared. This change in the picture was probably due to the fact that a very treatment was applied to spleen than the days previously.

Following points are of special interest—

(a) Granular glands. There was very slight enlargement and condensation of granular glands in the course of the disease and epithelial cells were granular and indistinguishable from the. The slight cells present quickly reabsorbed. The only, the tissue cells that was very slight enlargement of posterior cervical glands only.

(b) Spleen. The organ showed not, slight enlargement and very slight

the edge just felt beneath the left axillary margin. Later on it was not felt, but the area of splenic dulness was found to be increased somewhat.

(vi) *Haemorrhage*.—From nose, gums, and from the stomach. From patient's mother's statement the first hæmorrhage was severe hæmorrhoids, a great quantity of mucus, whose differential diagnosis was uncertain.

(vii) *Purpura*.—Fragments very marked.

(viii) *Chloroanæmia*.—This condition was not present at the beginning and appeared to be a result of the chronic state.

In this connection it is interesting to note that Dr. Vidale in the *Ann. Medico-chir. de Turin* December 1882, p. 355 mentions a case of acute angiodysentheria with purpura hæmorrhagica.

In this case the acute hæmorrhagic condition was completely overlooked until post mortem examination was made. During life all the attention had been focused on the purpura condition.

(ix) *Tongue*.—It did not become pale and furred until towards the termination. It presented no acute shallow ulcers, either along the sides or at the tip. There was none of the changes seen in cases of purpura or virus.

(x) *General nervous system*.—There was occasional numbness and tingling in the legs.

(xi) *Stoma*.—This was of an irregular type throughout.

Post mortem examination made twenty-four hours after death was carried out by Surgeon Commandant Thomas Deane, R.N., to whom we are indebted. The following is a report:—

External appearance.—The body was of a young adult slightly emaciated. The skin had a dusky tinge.

Throat.—The pharynx was normal. The larynx was somewhat enlarged, especially the left side, and the surface was covered with pin-pointed hæmorrhages. The lumen of the larynx was moderate in amount. The larynx contained light amber colored mucus. The external tubes were unaltered. The left ventricle was hypertrophied, the right ventricle was also slightly hypertrophied. The myocardium showed fatty degeneration. The left pleural cavity was obliterated by fibrous adhesion. The lungs were indurated at the bases, and showed signs of marked hæmorrhagic effusion.

Mediastina.—No adhesion. Livers not enlarged, livery firm in appearance, of a very pale-chestnut colour—a very hard crust on the free face was given. Both kidneys were enlarged the left more so. Capsule stripped badly readily. The surface generally was of a pale colour, and there was suggestion of presence of fatty degeneration.

Spleen.—Slightly enlarged, livery firm in consistency and pale reddish in colour. Hilary blood vessels were visible—no reaction in the free face.

Stomach and intestines presented no change of color. There was no enlarged glands. The liver margin was of a pinkish grey color.

Histological examination.—No histological examination of organs was made. The bone marrow was examined and found to contain many reticulated red cells, reticulated myelocytes, and very many large cells with basophil protoplasm.

DISCUSSION OF THE DISEASE

It proved little to be gained that the hæmorrhagic condition in the result of problems as compared to an infection (Vidale and Belloni, *op. cit.*, p. 358).

The association of this case with symptoms suggesting myeloma calcareum and chloroanæmia is interesting.

REFERENCES.

- (1) HANLEY. *British Med. J.* 1901 (vol. 2, p. 87).
- (2) BARNARD. *British Med. Journal*, 1900, vol. 2, p. 88.
- (3) LITTE. *Quart. Jour. Med.* April 1902 (vol. 2, p. 28).

1. CASE 11. HEAD FLASHES WITH SYMPTOMS SUGGESTING
EPILEPTIC DISCHARGES.

The Human Commission, I. C. 111799, M. H. 115.

N. K. C. aged 35, house engineer, with no good health up to February 20, 1914, when he suffered from clonus in his right shoulder. On March 1 he played in a football match. From that night he had some pain about joint in left shoulder and arm. He did not report until March 2, but pain was so severe that he had to sleep for two nights. He was admitted to hospital on March 3 and died on March 28. During this period he showed the following symptoms:—

(1) Temperature.—A small degree of pyrexia—98 to 100—was present during the first four days. On March 11, following further pyrexia, temperature rose to 104.7 F. During the ensuing week it was irregular (maximum 102 F). During the terminal stages it was raised to subnormal.

(2) Respiration.—Respiration remains until a marked feature during the first week. Body was covered with a subnormal rash.

(3) Pulse.—From 70 to 110, shoulder and arm short, painful till March 14. There was no local tenderness to suggest any strain.

(4) Symptoms.—Shingles, sometimes described as it is at all per se, was not marked in the diagnosis and respiratory muscles were present throughout, but were less marked in the terminal stages. These conditions made respiratory work and produced tension of the hand. They persisted during sleep, were interrupted by coughing, and were only relieved by a general anæsthetic.

(5) Excretion.—There was a marked feature throughout. Urinary and urinary drugs were of little use, producing at most one or two hours restful sleep.

(6) Mental Condition.—At least patient was quiet and content. At times he was restless, delirious and wandering. On a few occasions he became morose. During the latter stages he had consciousness of time and place.

(7) Eye Symptoms.—Tension, rigidity of the pupils (left & right) was noted. Vision and field were clear (March 15).

(8) Reflexes.—No change was observed.

(9) Pulse.—Rate was increased, varying between 90 and 160.

The following laboratory investigations were carried out:—

(1) Blood.—Showed a slight polymorphonuclear leucocytosis—11,000 to 12,000 per c. mm.—but this was without significance as patient had two large boils on his back. Red cells showed no change. Blood culture yielded no growth. Wassermann test was negative.

(2) Cerebro-spinal Fluid.—Examined March 11—was clear and under no marked pressure. It contained few cells per c. mm. It showed no excess of globulin and gave a negative Wassermann reaction.

(3) Urine was normal.

The above symptoms with their evidence of cerebral involvement and the absence of febrile signs suggested the possibility of epidemic encephalitis.

The mental examination—Cranium showed no bony abnormality. There was no evidence of skull over the whole of the vertex. Meninges were normal when exposed, but were thickened around in appearance. Dural—thickened—was normal in general appearance and appearance. Small nodules failed to show any abnormality, being beyond some suggestion of smaller vessels. There was no excess of fluid in the ventricles, but fluid present was slightly more stained. Cerebral plexus showed no significant change. The position of the spinal cord was suggested. Small nodules of pine, nucleus and spinal cord failed to reveal any abnormality.

Examination of thorax showed a few old pleural adhesions on the right

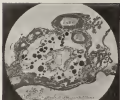


Fig. 1.—Crossed Fibres. (Faintly stained with iodine.)

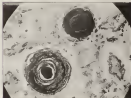


Fig. 2.—Crossed Fibres. (Faintly stained with iodine.)

have not a universal spot of coagulating serum — existing, as in this animal again, in one or several places.

As they were dissected, they had to account for the symptoms, several instances of which were observed somewhat peculiarly with the following findings:—

(1) *Chlorosis* (Symptoms: Fever, Tachycardia).—They were seen only in parts of the abdominal pleurae examined. It was, doubtless, present all along, showing all stages, from the small patches of chlorosis to complete chlorosis. The entire photographs, which were kindly taken at the B.N. Medical School, Government, illustrate this condition.

(2) *Pneumonia* (Symptoms: Fever, Tachycardia).—They were observed a general congestion of the smaller blood vessels — small veins and arteries of bronchovascular and a type of arterioles with small cells, which showed a tendency to form small groups, and to enclose in some local areas. These changes were more or less confined by the connective-tissue neighbourhood of the bronchi, sometimes, but were noted in a lesser extent in the subpleural space. In addition a number of small haemorrhagic superficial lesions were noted. These lesions varied in size from 10 to 20 μ . They seemed blue with very haemorrhagic, were not too limited and showed no structure. They were most numerous round the base of the bronchi, certainly, but a few were also observed scattered throughout the substance of the lung and mediastinum. There had no apparent relation to blood vessels.

(3) *Spinal cord* showed no change.

The eye, pleura and peritoneal sacs were not observed in any of the animals 'under the microscope' and chlorosis was observed in the walls of blood vessels described by different observers (Stewart and Greenfield, Dunn, McVigie) as cases of splenic thrombosis.

NOTES ON SCHISTOSOMIASIS IN THE YANGLU VALLEY

by GEORGE LAWRENCE GREENWOOD, F. R. S. (LOND.) M. A., D. V.

SCHISTOSOMIASIS, which on two occasions, since from Shanghai to Ningbo in April, May and June 1910, had been noted in various parts of the Yangtze valley, and was thought, then, to be a consequence of these cases, with those, described by Lawrence Greenwood, A. Anderson, and Stephen Macdonald, in 1905, is now being observed in China, according to H. B. Shaw, in the summer of 1910, may be of interest.

The all information connected with the cases in H. B. Shaw's work is published in the journal by these Medical Officers in the *Annals of the Marine Service*, Volume 1, Number 1, July and October 1911.

The cases in H. B. Shaw's work directly or indirectly show in the Yangtze that a large part of these is necessary and I will venture to say on reading the following.

Geographical Distribution.

The worst part of the Yangtze valley is now the middle of the Yangtze, Lake or Shanghai area, between 120 and 130 miles. There is a considerable area of Yangtze, and the base of mountains of the Yangtze valley and a large part of the Yangtze basin. Further down river the frequency decreases and it is only in the Yangtze in Shanghai and in some parts of the Yangtze valley that the cases are most frequent.

The first cases were reported probably at Tientsin, probably at Shanghai.

Incubation Period.

The first cases, H. B. Shaw, (1910, 1911, 1912), were reported together in three cases only, on April 19, 1910, at Tientsin, and April 19, 1911, at Shanghai. They were both taken off on the same day, May 19, and the physical nature of the disease was such that they were reported on the same day though 1910 was

to "the intestine" in the parents, and the commencement of egg laying, and the secondary rise in the inflammation set up all over the body for the general discharging of the eggs and their subsequent in the female organs.

I leave the legends in the following facts.

Later part of hatching was noticed also the secondary; we had begun, and at about the same time L. F. S. had several punctate hemorrhages in the subcutaneous of the larger male which were presumably slightly enlarged of pus.

It was also during this period of later that L. J. had several attacks in spasmodic morning twenty or thirty minutes following each other in rapid succession accompanied by a copious discharge of urine. These generally came on about 3 a.m., and it is probable that the urine was not retained for long.

Stanley and Weston report having found "two undischarged worms" in the quiescent animal is thought that the worms, might be due to the passage of one through the nasal mucous membrane.

One worm found in the lower of G. B. H. laid out on tissue of L. J. S.

In both cases (head) and worms were present in the shade when first examined about the seventh day, the female in small quantities, whilst the male was in greater quantities and at a single and dense number, say "Thousands" was noted and with rapid undulating and frequently other swimming the female and a host of worms. Both patients had a severe griping pain low in the back followed by the passage of a mass of tough mucus.

Stanley and Weston admitted no blood in their urine but both G. B. H. and L. J. S. passed small quantities of mucus during the third week.

Notice of the first case had any other symptoms of mucus on the legs, quite from urination, sufficient to attract attention either at the time of urination or later.

The first part mentioned above is a syndrome in which Stanley and Weston do not enter. It was well marked during the third week, being referred to the lower right rib (they the anterior axillary line striking sharply in the back and up in the right shoulder). This was the point of infection of both cases.

Both cases had tenderness of the liver as checked by tapping along the costal margin, but in neither case was the liver or spleen palpable.

Diagnosis

It is a little unfortunate that we have no early record of a diagnosis when blood count. L. F. S. had all per cent. anisocytosis at the end of the third week and that is the result.

Que are also found much early in the course of the disease especially if blood count.

Prognosis

The anisocytosis prognosis is substantially good.

L. F. S. returned to duty on July 9, the third fourth day, played golf a round and a half without longer up than the third day and had returned all the 20th he had lost by October 12, less than two months from the commencement of illness.

G. B. H. required a few more convalescent weeks in the hospital for a month to recuperate owing to the severe nature of his illness. He too had required a considerable part of the last 12 weeks (about 20th) by mid October.

Stanley had up to the end of 1894 nothing approaching a relapse.

I discussed the question of vaccine prophylaxis with Dr. and with Stanley and Stanley and believed from their last change of opinion on a foreigner is not as a rule followed by my requests.

The central nervous system in the patients and here recorded in the literature and mentioned by Stanley and Weston before the reported relations obtained by Stanley and Weston.

Periphyton

It is concentrated in spots of overgrowth, and is thick, sticky and 5 per cent. mucous. Sometimes green brown, but generally blackish and being, as usual, tasteless.

Found this in soil, a mass of water, etc. in a position that is peculiarly appropriate, growing up the weather surface of a rock, and where 80° F. in the shade, 80°-85°-90° F. in the sun, and soil is there on the most comfortable temperature.

It is a very useful thing to it appears very large some of the soil, etc. but it is, as they often happen, the most deeply into it.

Green leaves and branches should be worn and the leaves should be kept made and especially water, but the Chinese made more or less water for their purpose.

Indian waters are the best for use, but I do not think anyone who used to walk through a Taigian water marsh in their usual state to expect the experience to the Chinese and would almost pull them off as every day.

I am entirely in accordance with Chinese and Eastern as to the value of periphyton in giving any people better measures carried out by the Chinese or by themselves on behalf of the Chinese.

The first case was under the care of Dr. H. H. Haines at Shanghai and I am sending to him for permission to publish these notes and for much of the same about Chinese water.

1900-1901

WATER OF THE FINEST (LUTASOL) TUBERACULUS TEST

In Science, Cambridge, N. A. BROWN, M.A., D.D.

The following results of the Fingert test (Lutaculus tuberculatus test) of the water of the Fingert (F) tested and during the last two years of the Fingert (F) tested, may be of interest. The results are not sufficient for use, particularly in the Fingert, but they may be considered in connection with other cases of water.

They may be divided into two groups:—

(1) New tuberculous water giving a negative reaction. There were 21 cases of water which were tested with the same result.

(2) New tuberculous water giving a positive reaction. No cases.

(3) Tuberculous water giving a positive reaction. There were 11 cases of which one was tested with the same result. Three of these cases were also tested with advanced periphyton tuberculous, though it is generally stated that water which is advanced, frequently fail to give the test.

(4) Fingert and tuberculous water giving a negative reaction. There were five cases of water:—

(a) of advanced primary tuberculous (marked physical signs, tubercles (Lutaculus) advanced in system, etc.)

(b) of a primary advanced primary tuberculous. The case had the best physical signs, marked and slight, but no tubercles (Lutaculus) in system. It was one of four cases and with two specimens of tubercles and was always negative.

The early case, twice tested, with slight physical signs, but tubercles (Lutaculus) in system.

One case, twice tested, with distinct physical signs, and tubercles (Lutaculus) in system.

One case of Fingert which gave a negative test. Fingert confirmed by a

complete response to treatment with salicylates and low dose sodium bicarbonate in the acute phase.

(9) Dose 100 mg. Four of the patients (3 females and 1 male) had been treated with salicylates in the acute phase of the disease. The authors state that the response to treatment was not significantly different from the response to treatment in the acute phase of the disease.

Patients: 4 females and 1 male. Total 5 patients.

Course: 10 days of treatment with salicylates.

Results: 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients.

Phases of disease:

1. Acute phase: 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients.

2. Subacute phase: 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients.

3. Chronic phase: 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients.

4. Recovery phase: 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients.

5. Death: 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients.

6. No response to treatment: 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients.

7. Death: 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients.

8. Death: 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients.

9. Death: 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients.

10. Death: 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients.

11. Death: 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients.

12. Death: 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients.

13. Death: 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients.

14. Death: 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients.

15. Death: 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients. 10 patients.

Abstracts.

Langman, J. W. J. The Chemical Changes in the Acute Phase of the Disease of the Liver and the Role of the Liver in the Metabolism of the Liver. *Journal of the Royal Society of Medicine*, 1954, 47, 1-10.

In this paper the author shows that the acute phase of the disease of the liver is characterized by a decrease in the rate of the metabolism of the liver. This is due to a decrease in the rate of the metabolism of the liver. The author also shows that the acute phase of the disease of the liver is characterized by a decrease in the rate of the metabolism of the liver. This is due to a decrease in the rate of the metabolism of the liver. The author also shows that the acute phase of the disease of the liver is characterized by a decrease in the rate of the metabolism of the liver. This is due to a decrease in the rate of the metabolism of the liver.

In a paper by J. W. J. Langman, published in the *Journal of the Royal Society of Medicine*, 1954, 47, 1-10, the author shows that the acute phase of the disease of the liver is characterized by a decrease in the rate of the metabolism of the liver. This is due to a decrease in the rate of the metabolism of the liver. The author also shows that the acute phase of the disease of the liver is characterized by a decrease in the rate of the metabolism of the liver. This is due to a decrease in the rate of the metabolism of the liver.

The author also shows that the acute phase of the disease of the liver is characterized by a decrease in the rate of the metabolism of the liver. This is due to a decrease in the rate of the metabolism of the liver. The author also shows that the acute phase of the disease of the liver is characterized by a decrease in the rate of the metabolism of the liver. This is due to a decrease in the rate of the metabolism of the liver.

[illegible][illegible]

1. *Phragmites australis* (Cav.) Trin. ex Steud. Common reed. *Phragmites australis* (Cav.) Trin. ex Steud. Common reed. *Phragmites australis* (Cav.) Trin. ex Steud. Common reed.

[illegible]

1. *Journal of the American Statistical Association*, 1994, 89, 1039-1044.

[illegible]

The first part of the paper is devoted to the study of the asymptotic behavior of the solutions of the system (1) for large values of the parameter ϵ . It is shown that the solutions of the system (1) for large values of ϵ are close to the solutions of the system (2) for large values of ϵ . The second part of the paper is devoted to the study of the asymptotic behavior of the solutions of the system (1) for small values of the parameter ϵ . It is shown that the solutions of the system (1) for small values of ϵ are close to the solutions of the system (3) for small values of ϵ .

[illegible]

1. The first part of the book is devoted to a general introduction to the subject of the history of the English language. It discusses the various factors which have influenced the development of the language, such as the influence of other languages, the influence of the social and political environment, and the influence of the individual writers of the language.
2. The second part of the book is devoted to a detailed study of the history of the English language from the time of the Anglo-Saxons to the present day. It discusses the various stages of the language, from Old English to Middle English to Modern English, and the changes which have taken place in the language over the centuries.
3. The third part of the book is devoted to a study of the various dialects of the English language, and the differences between them. It discusses the various factors which have influenced the development of the different dialects, and the ways in which they have changed over time.
4. The fourth part of the book is devoted to a study of the various uses of the English language, and the ways in which it has been used in different contexts. It discusses the various styles of writing, from the formal to the informal, and the ways in which the language has been used in different genres of literature.
5. The fifth part of the book is devoted to a study of the various influences on the English language, and the ways in which these influences have shaped the language. It discusses the influence of other languages, the influence of the social and political environment, and the influence of the individual writers of the language.
6. The sixth part of the book is devoted to a study of the various changes in the English language, and the ways in which these changes have taken place. It discusses the various processes of change, such as the process of borrowing, the process of coinage, and the process of extinction, and the ways in which these processes have shaped the language.
7. The seventh part of the book is devoted to a study of the various features of the English language, and the ways in which these features have developed. It discusses the various grammatical features, such as the system of inflections, the system of word formation, and the system of syntax, and the ways in which these features have developed over time.
8. The eighth part of the book is devoted to a study of the various aspects of the English language, and the ways in which these aspects have changed. It discusses the various aspects of the language, such as the vocabulary, the pronunciation, and the spelling, and the ways in which these aspects have changed over time.
9. The ninth part of the book is devoted to a study of the various uses of the English language, and the ways in which these uses have changed. It discusses the various uses of the language, such as the use of the language in literature, the use of the language in science, and the use of the language in everyday life, and the ways in which these uses have changed over time.
10. The tenth part of the book is devoted to a study of the various influences on the English language, and the ways in which these influences have changed. It discusses the various influences on the language, such as the influence of other languages, the influence of the social and political environment, and the influence of the individual writers of the language, and the ways in which these influences have changed over time.

1. The following information is available for the year ended 31 December 2007:

© 2000 Blackwell Science Ltd, *Journal of Internal Medicine* 247: 395–402

Copyright © 2004 John Wiley & Sons, Inc. All rights reserved. This book is registered at the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923. Organizations in the U.S. who are also registered with the Copyright Clearance Center may therefore copy material (beyond the limits permitted by sections 107 and 108 of U.S. copyright law) subject to payment to C.C.C. of the per copy fee of \$12.00, Code 0022-3778/2004 \$12.00. This consent does not extend to multiple copying for promotional or commercial purposes. ISI Tear Sheet Service, 3501 Market Street, Philadelphia, PA 19104, USA, is authorized to supply single copies of separate articles for private use only. Organizations authorized by the Copyright Licensing Agency may also copy material subject to the usual conditions. For all other use, permission should be sought from John Wiley & Sons, Inc.

to examine it in relation to conditions of existence the materials of the body of a common dipter, in a few places, shows very important differences from that of a grasshopper. The study of similar conditions under unusual conditions is a subject well worth your study.

The examination of the general, common, conditions of the dipter and treatment of common insects, the body of the dipter, shows the following:

The dipter is a very good and well known dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter.

R. J. L. P.

The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter.

The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter.

The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter.

The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter.

The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter.

R. J. L. P.

The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter.

The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter.

The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter.

The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter.

The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter.

The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter. The dipter is a very good dipter and is a very good dipter.

[Faint, illegible text, likely bleed-through from the reverse side of the page.]

PROMOTIONS

[Faint, illegible text, likely bleed-through from the reverse side of the page.]

ROYAL NAVY MEDICAL CLUB

[Faint, illegible text, likely bleed-through from the reverse side of the page.]

NAVAL MEDICAL COMPASSIONATE FUND

Amount of Receipts and Payments for the year ending December 31, 1900.

RECEIPTS

1. Balance forward

2. Contributions

3. Interest

4. Other

Total

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

To fund for

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

11 11 1

State of the Service

Notice

1955-56

The Editors (see Medical Officers) are now soliciting suggestions for material suitable for the present year's volume. Such suggestions should be sent to the Senior Medical Officer and be accompanied by a paper and printed version on form, as follows, if possible.

Authors should submit manuscripts, published in the language of the Journal, in triplicate. Manuscripts should be typed on one side of the paper and be double-spaced, with 10 mm margins throughout. Authors should submit the original and two copies, and retain the original copy for the Editors.

Manuscripts should be typed and double-spaced on one side of the paper.

All Communications should reach the Editors on or before the 1st of the month preceding the date of issue. It should clearly indicate that it should be typed in order to avoid mistakes and that it should be addressed to the Editors, Journal of the Royal Society of Tropical Medicine and Hygiene, 11, Portico Road, London.

The Editors are now (see Senior Medical Officers) having published notices for the volume, contents, and rules.

The following are the conditions (including conditions for the use of the copyright) which the Editors wish to announce in connection with the use of the copyright in the volume of the year 1955-56. The copyright in the volume of the year 1955-56 is held by the Royal Society of Tropical Medicine and Hygiene, 11, Portico Road, London. The copyright in the volume of the year 1955-56 is held by the Royal Society of Tropical Medicine and Hygiene, 11, Portico Road, London. The copyright in the volume of the year 1955-56 is held by the Royal Society of Tropical Medicine and Hygiene, 11, Portico Road, London.

1955-56

For a complete list of the conditions of the copyright in the volume of the year 1955-56, see the notice in the volume of the year 1955-56.

Journal
of the
Royal Naval Medical Service.

Original Articles.

OBSERVATIONS ON THE VITIATION OF THE AIR IN
RESPIRATION BY SUBMARINES AND ITS PATHOLOGICAL
EFFECTS ON THE PERSONNEL.

By ROBERT CANNON, MEDICAL OFFICER, H.M.S. "LION."

AND

ROBERT LUTHERTON CHURCHILL, WILLIAM I. GORDON, M.D., F.R.C.S.

THE advent of submarines opened up a new chapter in Naval Hygiene. Many of the problems which presented themselves under the new conditions have been solved but several questions relating to air purification or conditioning of the air in submarines when submerged have not yet been satisfactorily dealt with. It is now well known that under ordinary conditions the factors which determine the humidity of the air in a ventilated room or compartment are physical and not chemical and that the increase in carbonic acid (CO_2) and decrease in oxygen which may occur under these conditions may be disregarded. In submarines, however, when submerged so that no renewal of air from the outside is possible and in other hermetically sealed compartments we have to consider not only the physical condition of the air but also the chemical condition. After some hours in a closed compartment, the partial depending on the number of cubic feet of air space available per man, the CO_2 will increase to such an extent and the reduction in oxygen will be so great that the air will no longer be able to support life, and death will result.

Numerous experiments have been carried out by many workers both in this country and abroad to determine the effects of increase of CO_2 and decrease of oxygen on the individual, and as a result of such experiments it has been definitely established that a much greater tolerance in the former and less tolerance in the latter can take place without causing harmful results than was formerly believed. The facts however judging from various

anthropometric measurements have used by different workers to report on the relative fitness of men and are not generally known to one another. One anthropometric measurement would appear to stand up to the criticism just stated, the percentage of blood in a subject's body (weight) and is available upon demand. During the measurements which are described below, it will be seen that one of which (percentage CO₂ in the expired air) was brought to bear upon another (percentage of blood in the body) when one has been accustomed to think of CO₂ as present in small percentage, which is, nothing being used as an index of relative error, and as an indicated (index) to approximate that in comparing of one subject (man) with another one (a female) without allowing for the difference in respiratory capacities of efforts. We have therefore not attempted here to correlate and present these data, as they are put forth which will be of assistance when considering ventilation problems in relation to the subject.

The observations on the physiological effects of air breathed by man during which form the subject of this report are based on experiments carried out recently on board a submarine in which the physical and mental state of the air under varying conditions was under investigation. Although these observations are not new they are of interest because they were made under actual working conditions and support to a large extent the findings of others who carried out tests of a similar nature in experimental chambers, and also because of the comparatively long periods during which the men spent when the observations were made were exposed to almost real war conditions.

The observations were carried out on two different occasions referred to hereafter as Trial I and Trial II, and consisted in the estimation of

- (1) Blood pressure
- (2) Pulse rate
- (3) Respiratory rate
- (4) Alveolar CO₂ percentage

TRIAL I

Conditions during Trial I.—The submarine containing the control room (main) was closed down as before diving so that the ventilation of air was virtually prevented. The available air space per head was approximately, but not exactly, 10 cu. ft. The air was kept in motion by table fans so arranged as to maintain as far as possible an even distribution of the air throughout the vessel, and during the period of the trial measures were used to remove the moisture and CO₂ added to the air by the personnel. The natural amount of

CO₂ in the air and O₂ present and other factors relating to the conditions of the air at different periods are given where necessary with the results of the various tests. It should be noted that during this trial the physical condition of the air which determines its working power, on which the well-being of the individual is largely dependent, was very satisfactory. The temperature did not exceed 81°F., the air was kept well in motion, and as well as pure was prevented.

O₂ consumed was not replenished, as the volume rose twenty two and three-quarter liters, at the end of which period the trial was concluded as suggested by observation. At the end of twenty five hours the CO₂ pressure was 100 mm. Hg, the oxygen was 16.57 per cent, so that the blood was five acids lit. 5 mg. per cent. It was stated that within the treatment which was used to remove CO₂ the amount of the latter at the end of the trial would have been 3 per cent. At no period during the trial was "overbreathing" as the observers noted. No complaints were made by any of the "guinea" or observers, all of whom remained firm from objective or subjective fatigue. The general feeling of well-being was collected in the leading apparatus displayed by all the observers at breakfast about one hour before the trial ended.

Observations. Table I.—The number of ratings kept under observation was sixteen. Immediately after closing down the following results were noted:—

Case	Age	Form of observation	S.P. mm. Hg.	D.P. mm. Hg.	Pulse P. per M.	Pulse D. per M.	Respirations per min.
1	35	3 yrs. 4 weeks	120	80	80	22	15
2	30	" " 4	120	75	80	20	14
3	31	" " 4	121	80	80	21	15
4	24	" " 3	120	80	85	20	17
5	28	" " 3	124	75	74	21	16
6	30	" " 3	120	80	80	22	16
7	31	" " 3	120	80	77	21	14
8	32	" " 4	120	80	82	22	16
9	26	" " 4	120	75	78	20	16
10	28	" " 3	120	80	80	22	17
11	24	" " 3	124	80	81	20	16
12	27	" " 3	120	80	75	24	17
13	31	" " 3	121	70	74	20	16
14	29	" " 3	120	75	80	20	16
15	30	" " 3	124	80	81	20	17
16	24	" " 3	120	80	80	20	15

Average age = 27.3 years. Average time of observation = sixteen minutes.

Average systolic pressure (S.P.)	120 mm. Hg.
" diastolic pressure (D.P.)	80 mm. Hg.
" pulse pressure	40 mm. Hg.
" pulse rate	77
" respiratory rate	17

The blood pressure observations were carried out while the "guinea" was in a sitting posture and not within an hour of meals. The average systolic pressure (120 mm. Hg.) is slightly higher than the average normal recorded for the age group twenty six to thirty years. According to Harvey, and by applying the average systolic pressure is 121.6, and if we measure the pressure as suggested by Williams, by taking 100 and adding half the age, we have the figure 114.5. The element of excitement present at the commencement of the test was probably responsible for the slightly raised systolic blood-pressure, but the question of slight compensatory hypertrophy must also be considered.

346 Variation of Pressure by Respiration in Salamanders

Series 10. In Michael's box heater

Secs.	Bar.	Bar.	Pulse P.	Pulse rate	Respiration rate
1	100	74	45	60	25
2	100	74	45	60	26
3	100	74	55	75	27
4	100	74	55	75	27
5	100	74	55	75	27
6	100	74	55	75	27
7	100	74	55	75	27
8	100	74	55	75	27
9	100	74	55	75	27
10	100	74	45	60	27
11	100	74	45	60	27
12	100	74	55	75	27
13	100	74	55	75	27
14	100	74	55	75	27
15	100	74	55	75	27
16	100	74	55	75	27

Average systolic pressure 100 mm Hg
 diastolic pressure 74 mm Hg
 pulse pressure 26 mm Hg
 pulse rate 60
 respiration rate 27

These figures differ only slightly from those in Series 1. There is no change in the average systolic pressure, the average diastolic pressure shows a very slight fall.

Series 10a. At the end of ventilation hours

Secs.	S.P.	D.P.	Pulse P.	Pulse rate	Respiration rate
1	100	60	50	60	15
2	100	60	50	75	15
3	100	60	45	75	15
4	100	60	45	75	15
5	100	60	45	75	15
6	100	60	45	75	15
7	100	60	45	75	15
8	100	60	45	75	15
9	100	60	45	75	15
10	100	60	45	75	15
11	100	60	45	75	15
12	100	60	45	75	15
13	100	60	45	75	15
14	100	60	45	75	15
15	100	60	45	75	15
16	100	60	45	75	15

Average systolic pressure 100.0 mm Hg
 diastolic pressure 60 mm Hg
 pulse pressure 40.0 mm Hg
 pulse rate 60
 respiration rate 15

These rats show slight changes. The average systolic pressure shows a fall of approximately 5 mm. Hg and the average diastolic pressure a fall of 5 mm. Hg. The pulse rate shows a decrease of 10.

Series II At the end of twenty (20) hours

Les.	S.P.	D.P.	Time (h)	Pulse rate	Respiration rate
1	107	68	1 1/2	88	18
2	109	69	3 1/2	75	18
3	115	62	5 1/2	67	18
4	120	63	7 1/2	58	17
5	117	68	9 1/2	58	16
6	114	70	11	73	15
7	125	66	13	68	16
8	124	62	15	75	17
9	130	74	17 1/2	67	16
10	127	66	19 1/2	67	19
11	114	70	21	69	19
12	120	69	23 1/2	64	17
13	120	73	25	66	16
14	119	69	27 1/2	60	18
15	120	69	29	60	19
16	120	68	31	64	18

Average systolic pressure	114.4 mm. Hg
Average diastolic pressure	70.4 mm. Hg
Average pulse pressure	43.4 mm. Hg
Average pulse rate	65
Average respiration rate	18

It will be seen from these figures that the tendency is a slow fall in the average systolic pressure continues. There is little change in the other values. These findings indicate a very satisfactory condition of the atmosphere at the end of the trial.

A summary of the observations together with the percentage of CO₂ and oxygen present when each series was made is given in the following table.

	At S.P.	At D.P.	At pulse pressure	At pulse rate	At respiration rate	CO ₂ per cent	Oxygen per cent
Series I							
Beginning of test	128	80	48	74	19	0.09	—
Series II							
End of 4 hours	120	77	43	70	17	0.15	—
Series III							
End of 16 hours	117.5	75	42.5	65	16	0.14	—
Series IV							
End of 36 hours	110.5	73.5	41.4	65	16	0.16	0.15

At the end of twenty-two hours the average systolic pressure shows a fall of 5.4 mm. Hg and the average pulse pressure a fall of 5.6. These changes are very slight and cannot be attributed to either the increase in CO₂ or the decrease of oxygen.

Estimation of the amount CO_2 .—The absolute, etc., being measured by means of Eichenmann's apparatus between the twentieth and twenty-second hour. The results were as follows:

Day		Night	
1	1.0	1.0	1.0
2	1.0	1.0	1.0
3	1.0	1.0	1.0
4	1.0	1.0	1.0
5	1.0	1.0	1.0
6	1.0	1.0	1.0
7	1.0	1.0	1.0
8	1.0	1.0	1.0

These values are good, and are such as we would expect to find in the case of men in good physical condition and not doing excessive muscular work.

At the end of twenty-two hours the day and night temperatures and absolute and relative humidity in the room space were as follows:—

82.2	81.2	absolute	82.4
65.5°	65.2°	humidity	71
		(per cent. saturated)	

I was the physiological observations carried out during the first trial (see p. 15) needed in stating that the condition of the atmosphere at the conclusion of the end of the trial was very satisfactory.

The measurements of a negative value, but nevertheless important as they were able with the chemical findings and help to prove the value of the continuous method for measuring CO_2 and moisture. The relation of the two was kept well under control.

TABLE III

1st session during trial. The continuous was closed down, as in Trial I, and all the other conditions were the same, with the exception that during the first twelve hours no continuous was employed to remove CO_2 , and therefore:

Increase in moisture indicated by "sweating" on the inside after was not felt at the end of one hour and thirty-five minutes. After eleven hours, and seven minutes the oxygen percentage was 18.75 and at the end of twelve hours the percentage of CO_2 was 1.17. Some discomfort was felt at the end of eight hours, and at the twelfth hour each of the three observers complained of headache, headache, slight nausea and loss of intellectual power.

At the twelfth hour the continuous to remove CO_2 and moisture as employed in Trial I were disconnected and continued to the end of the trial. Moisture was rapidly increased and further increase in the CO_2 largely prevented. The trial was brought to an end, as previously arranged, at the twenty-fourth hour. At this time the CO_2 present was 2 per cent, and the oxygen 16.12 per cent.

These values represent \bar{P} at the commencement of the trial for the following results were noted:—

Case	S.P.	D.P.	Pulse P.	Pulse rate	Respiration rate
1	100	75	12	78	17
2	115	72	13	74	19
3	126	65	11	78	17
4	112	68	13	80	18
5	109	77	15	80	18
6	109	72	15	75	17
7	103	66	16	76	16
8	128	66	11	78	18
9	150	66	16	76	17
10	114	66	11	75	17
11	136	66	7	80	16
12	142	61	10	74	17
13	118	76	11	81	16
14	110	80	10	80	17
15	102	70	10	85	17

Average systolic pressure	120.7 mm. Hg
diastolic pressure	72 mm. Hg
pulse pressure	47.8 mm. Hg
pulse rate	— 73
respiration rate	— 17

As in Series 1, in Trial 3 the average systolic pressure is slightly higher than the average mean given for this age group (10 to 20 years).

Series 12—at the end of one hour:—

Case	S.P.	D.P.	Pulse P.	Pulse rate	Respiration rate
1	140	80	50	72	16
2	138	80	45	60	15
3	120	80	42	60	12
4	135	80	49	64	17
5	133	58	48	57	12
6	115	80	30	55	16
7	120	80	48	75	18
8	132	80	50	72	16
9	140	80	50	60	14
10	130	55	45	63	12
11	140	60	52	73	19
12	150	50	55	68	14
13	138	70	47	64	17
14	140	65	50	73	17
15	120	60	48	81	17

Average systolic pressure	— 131 mm. Hg
diastolic pressure	— 62.5 mm. Hg
pulse pressure	— 45.5 mm. Hg
pulse rate	— 55
respiration rate	— 16

These figures show a slight rise in the systolic and diastolic pressures and a slight decrease in the pulse rate. The respiration rate is unchanged. At this period CO_2 = 1.05 per cent.

Table 11.—At the end of twelve hours.—

Time	S.T.	D.P.	Pulse P.	Pulse rate	Respiration rate
1	100	82	41	60	20
2	100	80	40	72	17
3	100	80	42	64	19
4	100	80	40	60	19
5	100	80	40	66	19
6	100	80	40	70	17
7	100	80	40	68	18
8	100	80	40	64	17
9	100	80	40	70	20
10	100	80	40	66	17
11	100	80	40	66	17
12	100	80	40	62	20
13	100	80	40	68	19
14	100	80	40	64	18

Average systolic pressure	100.0 mm.	Hg.
diastolic pressure	80.0 mm.	Hg.
pulse pressure	20.0 mm.	Hg.
pulse rate	65	
respiration rate	18	

These values show a very slight fall in the average systolic pressure, but a further slight rise in the diastolic pressure. Although the volume of the air was now considerable, the physiological effects as indicated by the above observations are slight. The men, although not complaining, felt a sensation of "stiffness" in the air, and those who were last mentioned in the former conditions complained of a heavy feeling during and slight headache. Sweating was at this time very marked in the various compartments.

Table 12.—At the end of eighteen hours.—

Time	S.T.	D.P.	Pulse P.	Pulse rate	Respiration rate
1	100	80	45	70	20
2	100	80	45	70	18
3	100	80	45	60	20
4	100	80	45	55	20
5	100	80	45	60	17
6	100	80	45	70	15
7	100	80	45	71	18
8	100	80	45	60	15
9	100	80	45	70	20
10	100	80	45	60	18
11	100	80	45	65	18
12	100	80	45	70	18
13	100	80	45	65	17
14	100	80	45	70	20
15	100	80	45	60	18

Average systolic pressure	100.0 mm.	Hg.
diastolic pressure	80 mm.	Hg.
pulse pressure	20.0 mm.	Hg.
pulse rate	65	
respiration rate	18	

Thus, again there is a slight rise in the average systolic pressure, and a very slight rise in the respiratory rate. Again the readings, however, taken 15 minutes had been removed from the rest and the reaction by 5 to 10 beats and under caused by the stimulus administered at the twelfth hour.

Series V.—At the end of twenty three and a half hours:—

Time	A. P.	D. P.	Pulse P.	Pulse rate	Respiration rate
0	105	80	43	70	20
1	100	80	45	75	20
2	105	80	40	60	15
3	105	85	45	65	15
4	105	80	45	65	15
5	105	80	45	65	15
6	104	75	45	70	20
7	100	85	55	90	15
8	105	80	45	65	20
9	105	85	55	75	20
10	104	80	44	65	20
11	105	85	45	65	15
12	105	90	45	70	20
13	100	80	40	65	15
14	100	90	40	75	15
15	100	80	40	65	15

Average systolic pressure	100.4 mm. Hg.
diastolic pressure	84 mm. Hg.
pulse pressure	16.6 mm. Hg.
pulse rate	67
respiration rate	18

These figures show a slight fall in the average systolic pressure. The respiration rate remains the same. At the end of twenty-four hours when the animal was brought to a close the percentage of oxygen was 14.14. Variation by acetone and CO₂ had been kept well under control and the physiological effects of excess CO₂ plus stimulation in oxygen, which would certainly have been evident if the stimulus had not been prevented are absent.

A summary of the observations, together with the percentage of CO₂ and oxygen present when each series was made is given in the following table:—

	A. P.	D. P.	in Pulse P.	in pulse rate	in respiration rate	CO ₂ per cent	Oxygen per cent
Series I							
Beginning of test	100.5	75	41.5	70	17	14.15	—
Series II							
End of 6 hours	100	80.5	40.5	65	15	14.45	—
Series III							
End of 12 hours	100.5	81.5	40.5	65	15	14.97	15.75
Series IV							
End of 18 hours	100.5	85	43.5	65	15	14.11	—
Series V							
End of 23½ hours	100.4	84	45.5	67	18	14.02	15.12

The linear $\dot{V}O_2$ percentages estimated between the mouthpiece and noseward hose were as follows:—

Time	$\dot{V}O_2$, %	Time	Average $\dot{V}O_2$, per cent
1	50.1	9	5.0
2	50.4	10	5.0
3	50.8	11	5.05
4	51	12	5.0
5	50.7	13	5.0
6	51	14	5.0
7	50.5	15	5.0
8	50.5		

From figures above, particularly no change and no gain within normal range. The average percentage of $\dot{V}O_2$ in the air during the period of subject's consciousness from study is 5.0 per cent.

Effect of Subject's Position, Trials I and III

No appreciable effect is observed in the man comprising the nose of the apparatus, did not differ in any extent during the two trials. During Trial I in closely monitored instances were taken to ensure conscious and (4). The percentage of $\dot{V}O_2$ in the air was kept very well under control. It did not contain a higher likely to produce appreciable effect—percentage anywhere in the volume, being 5.04 per cent.

The volume percentage was at the end of twenty-two hours in Trial I was 10.0 per cent from the normal 5.0 per cent likely to produce marked effect.

During Trial III the nose of the volume, being more monitored to the conditions were less affected than the subjects carrying out the observations. At the end of twelve hours, during which period no steps were taken to prevent variation of the air, no longer aware of a heavy load, being slight headache, and some loss of their concentration. An observation, were being carried out during the whole of the period, it may be that volume, played a part in the symptoms. Again, it must be remembered that in conscious person various substances in a limited atmosphere affect the effluxary nerves and produce an unpleasant effect. At the end of the first twelve hours of Trial III the $\dot{V}O_2$ percentage was 5.0. At this point a watch kept going for 4 hours to twenty minutes only. Very soon after the cessation of oxygen, $\dot{V}O_2$, and movement were resumed to some extent of such basis as conditions.

Effect of $\dot{V}O_2$ in a volume, when subjected a limited volume of air is rebuffed until after a few hours a light will not burn. Provided the air remains constant was the case during the trials the only effect produced was due to $\dot{V}O_2$. In most crowded and of restricted ventilation proportion of $\dot{V}O_2$ within some above 5.0 per cent, with a proportional drop in the oxygen. This has been shown to be of no appreciable importance. Ventilation, however slightly deeper than the consumption of the

dividual air and arterial blood remains practically unaffected as regards either CO_2 or oxygen.

Haldane and Loewenhardt showed that when the percentage of CO_2 in the air rises to about 5 per cent, and the oxygen falls to about 17 per cent—the breathing begins to be noticeably increased. With further increase the increase in breathing becomes more marked, until with about 6 per cent CO_2 and 15 per cent oxygen the panting becomes very great, with marked consequent cyanosis. If however, the CO_2 was absorbed by means of soda-lime, there was no noticeable increase in the breathing before the oxygen fell to below 14 per cent. When the CO_2 was left on the air but oxygen was first added so that it remained appreciably high throughout, the panting was just the same as when ordinary air was used. It is therefore of CO_2 therefore and not deficiency in oxygen which under such conditions causes hypopnea.

Effect of CO_2 on Blood pressure.—From the observations carried out it will be seen that there was no marked alteration in either systolic or diastolic pressures. During Trial III, even with 6.5 per cent CO_2 at the end of eighteen hours, there was only a very slight rise in systolic pressure of 5.5 mm. Hg.

The blood-pressure was estimated by the auscultatory method and a fairly accurate estimation of the diastolic pressure was obtained at the same time as that of systolic pressure. The diastolic pressure is a very important reading as it indicates the load which vessels and organs suffer constantly have to bear. It also gives us an indication of the resistance to the opening of these valves at the beginning of systole, hence it helps us to gauge the peripheral resistance.

In considering the question of blood pressure it is necessary to remember that the cardiac output is conditioned by the state of the heart muscle and the cardiac output. The output of the heart muscle depends on the necessary resistance; if increased work is thrown on the heart, the necessary resistance. Relation of the necessary output is caused by metabolic products in the blood, mainly CO_2 . In 1908 Hagen and Chab. showed that increased tension of CO_2 in the blood caused an increase in blood pressure. The increase of CO_2 in the blood increases the absolute content of the blood, and so that there is vascular constriction with a raised blood pressure, slowing of the heart and increased amplitude of heart beat. According to Haldane's experiments with the CO_2 raised to a little over 5 per cent sufficient to increase the breathing to about five times the normal there was a slight rise in both arterial and venous CO_2 pressures. There was no appreciable increase in the circulation rate. There seems little doubt that in the case of the circulation just as in respiration, increase in CO_2 pressure mainly supply for increase in oxygenation concentration.

During both trials the temperature of air in the incubator was low. The skin temperature was not down to the extent by over ventilation as the prevention of unnecessary loss of heat from the body. The skin was

Arterial blood is driven by the heart. Probably it is the stimulus, of the centers in excess of certain metabolic products, particularly CO_2 , and the decrease of others, particularly oxygen, that determines the stimulation of the respiratory center. A normal stimulus to prevent excess of the respiratory center is a deficiency of oxygen combined with an excess of carbonic acid and other acids in the blood supplying the brain. During trials I and II, the percentage of arterial CO_2 and oxygen reached a level likely to produce such stimuli changes. If there is marked slowing in the circulation it is referred to slowing of breathing. The action of the higher centers controlling blood-pressure and heart rate may be compared with the action of the respiratory center in its limited response to direct chemical and peripheral nervous stimuli. The limiting factor in determining the rate of circulation and local distribution of blood flow is local or general deficiency or excess in the diffusion processes of the substances which enter into tissue metabolism and particularly deficiency or excess in the diffusion processes of oxygen and carbonic acid. Temperature is also a factor since the diffusion processes of a substance varies in the absolute temperature. As before, the regulation of the circulation is a chemical regulation.

Effects of Denaturation of Oxygen—In Trial III, at the end of asphyxia, there was some burning, and on this question it should be noted that the focus is sensitive to the percentage of oxygen and not the partial pressure, whereas it is the partial pressure that is of physiological importance. A fall in oxygen percentage of 10 or 15% is important or even of 5% through the flame gas test but a flame burns well when atmospheric pressure is diminished to one-third when a man is soon asphyxiated under similar circumstances. The CO_2 burns greatly the risk that would otherwise be caused from a depression in the oxygen percentage. The risk is lowered because CO_2 that increases oxygen percentage in the alveolar air by means being breathing and usually, raising the hydrogen ion concentration of the blood thus increasing the circulation rate and slowing the denaturation of oxyhemoglobin in the tissue capillaries. There is therefore little or no danger from lack of oxygen until the oxygen percentage of the air falls by about 7 per cent. The effect produced on the breathing by a given reduction in the oxygen pressure of the inspired air varies considerably in different individuals. Some respond more readily by increased breathing than others, and for this reason seem to be better protected against the order and more serious effects of want of oxygen, since the increased breathing raises the alveolar oxygen percentage.

During the present work the oxygen percentage was never below 18, hence no effects were produced. In some persons a lowering by as little as 10 per cent in the oxygen of the inspired air will usually increase the breathing, but in most persons a lowering of at least 7 per cent, from about 20% to 14, is needed to produce a noticeable effect, while in others very little effect is produced before consciousness is lost from want of oxygen.

In connection with action of the respiratory center there is shallow

standing (4) is important secondary effect of this (compensatory) response (5) is listed. The signs of degree of breathing apparatus (6) is given. Various, as defined standards on the system (7). With this appears. It was a small resistance will produce almost no effect and a rapid extension of the respiratory system. Nevertheless, it is not a child affected, and this system is most important in connection with the wear of respiratory where any marked increase in resistance to breathing may double an individual for minutes or hours.

In addition, therefore, there will be a danger of a combination of adverse conditions, namely, the resistance of the respirator and effects of infection.

It is most important that only the physically and mentally fit should be given for extensive service and for duty in such places as transmitting stations, especially under war conditions when anti gas protection will be necessary.

RELATION OF THE ALVEOLAR CO₂ PRESSURE

The extension of the CO₂ in the alveolar air has been set out by means of Henderson. CO₂ tension as modeled by Dr. L. P. Fenton of Guy's Hospital, and which is described in modern textbooks on clinical diagnosis. In man breathing is regulated by alveolar CO₂ pressure and a very slight increase in its tension is sufficient under normal conditions and excluding heavy work, to cause a very great increase in ventilation in the breathing. It has been shown that the physiological action of CO₂ (oxygen and other gases present in the air) is based on their partial pressure. It is only when the barometric pressure is constant that their action depends on the percentage proportions in which they are present in the air. With an increase of CO₂ pressure is inspired air accompanied by a decrease of oxygen (which will be less), the oxygen pressure in the alveolar air will remain almost almost more increased breathing due to the extra CO₂ will no more than alveolar oxygen pressure is to compensate for the oxygen deficiency in the inspired air. Therefore the oxygen deficiency in the inspired air has no effect. The more alveolar CO₂ percentage remains very steady with varying frequency of breathing. A very slight increase in the alveolar CO₂ percentage and consequent slight increase in the chemical stimulus to the respiratory center increases the depth of breathing on a slight decrease in alveolar CO₂ percentage decreases the depth. The alveolar alveolar CO₂ may be lowered by means of oxygen. During Tests I and III the alveolar CO₂ percentage was not only almost in any way.

Effects on Respiration Rate—Changes were very slight. At the end of I and III the rate had risen on an average one per minute. As the respiratory center is excited by chemical stimuli depending on the character of the blood supply, the observations show absence of response to the slight variation present in the air.

It must not be forgotten that a great hyperventilation syndrome exists in the normal adult limits of O_2 and temperature and that such a complex combination of conditions and conditions may be maintained at temperature and pressure level and in response to it all and classified as subject has indicated but by the body apart from the act of temperature of the air. During the trials, as we have indicated already temperature, conditions of humidity and movement of the air were very pertaining to the low temperature. There was no respiration from the subject, only light work was carried out, and the moisture resulting from respiration was kept under control by the moisture adapted.

WOUNDS OF BREASTS AND CHEST

Trial I—In the case of the subject (subject) whose observations were carried out, there seemed to be no marked difference in length of time of employment in the laboratory under and over the blood pressure. The arterial systolic pressure for the average age (21 years) was slightly higher than a given as a normal standard, but the number of readings was small that any slight variations in the blood pressure are of little import. Therefore, during the last throughout which moisture and CO_2 were measured, there is small that one is justified in stating that variation of the air in the laboratory was kept as well under control that physiology and effects were not apparent.

Trial II—During the first twelve hours no measure was taken to measure moisture or CO_2 and at the end of the period the effects of variation of the air were very distinct on the subjects carrying out the observations. The atmosphere became "heavy." There was slight headache after a feeling of being and a want of close observation. Any marked physiological changes were absent, however. The respiration rate had increased only very slightly and the changes in arterial CO_2 percentage were absent. Any increase in arterial CO_2 pressure would have been at once reflected in increased rate of respiration.

Very slight increases in physiological effects were noted towards the right ends and twenty second hours. The effects of exposure on conditions were at once marked a very short time after the cessation to putify the air. The atmosphere was at once normal and the further variation of the air by CO_2 and moisture was given kept and under control. The amount of CO_2 moisture and weight decrease was given such as to produce marked physiological effects.

In conclusion, we wish to express our thanks to Mr. Robert C. Fendrick, Demonstrator of Hygiene, R.N. Medical School, Gloucestershire for the valuable help rendered during the trials in the examination of the physical and chemical conditions of the air, and also to Leonard E. R. A. McKee, Laboratory Assistant who aided him in this work.

appears to be that from 1875, the average temperature in Europe. The cause of previous epidemics is not a commonly recognized disease which occurs generally in the human race, but a "spelling." Often it is referred to as the "itch" spreading throughout the body. The last had almost everywhere, usually from the first of September to the middle of the autumn, when from the distance of four or five miles. The intense pain in the lower extremities was rapidly relieved by this epidemic disease in the epidemics in the case of six which were observed.

In the upper world my attention was drawn to the extremely valuable symptoms of infection of diphtheria T (1 a per cent) in liquid practice. These were used as a means of treating out, heavily infected patients with no symptoms. Several cases of diphtheria (diphtheria) were being treated with diphtheria. Patients had been operated by means of sodium chloride being introduced in the lower by eight to twelve hours. I had not before pointed out four cases of diphtheria patients which were being treated by the Cavel Diphtheria method. A healthy diphtheria being given in the lower body where the diphtheria was spreading, while the lower body finally returned with these cases was nearly absent.

In the operating theatre Dr. Lucius and Professor Gibson were at work. The former did a rapid hysterectomy rapidly. On a second case he performed a hysterectomy combined with a peritonectomy. He then again had that for cutting the ends of the uterus and uterus. Good specimens of the skin edges was obtained and with great ease. Professor Gibson needed a fractured pelvis with long-term treatment. The operation in each case was given and oxygen which was administered by means of a tube for the purpose. They used a hysterectomy apparatus, which has the means of being simple and convenient. Under local anesthesia a hysterectomy was performed on an epithelioma case without the least discomfort in either the patient or the surgeon. A case was shown which had developed acute hyperthyroidism later hysterectomy. In addition relief was obtained by following Cavel's method of packing in it.

The results of the many tests made. The patient was free, the supply of water in being received in the water, while the patient in "out" papers were placed beneath the back. The arrangement worked well but the patient began to become heated by heat. An excellent system of drying painted with patient in clean hot fluid within water basin. A typed case is given and the same not required are crossed out by the patient himself. An example is also following given extensively is appended in full.

Breakfast—Baked apple without skin, sliced apples or pears, apple, sugar cream of wheat, wheat or farro. Corn starch, oatmeal (cooked) 1½ hours in double boiler with cream and sugar. Soft-boiled egg or poached toast and butter, honey coffee long.

11 30 a.m.—Milk and honey water

Food habits—White fish fed on both the 1st and 2nd samplings, but the 2nd showed more fish, long blue pike, carp. (No yellow perch, burbot or chub.)

Washed basket vegetables as raw peas, beans, potatoes, asparagus, spinach, turnips, cauliflower and corn.

Beaver—Extensive beaver placed through a culvert, gabione project a road, puddings such as broad river, rapids or rapids. Beaver and beaver. 1/2 p.m. — fish, and from 1/2 p.m.

Beaver—Extensive beaver placed through a culvert, gabione project a road, puddings such as broad river, rapids or rapids. Beaver and beaver. 1/2 p.m. — fish, and from 1/2 p.m.

Beaver—Extensive beaver placed through a culvert, gabione project a road, puddings such as broad river, rapids or rapids. Beaver and beaver. 1/2 p.m. — fish, and from 1/2 p.m.

Food habits—Washed basket vegetables as raw peas, beans, potatoes, asparagus, spinach, turnips, cauliflower and corn. The 2nd showed more fish, long blue pike, carp. (No yellow perch, burbot or chub.)

It was at first strange to note the uncommon of the white, black, and mottled in the same area, but this state of affairs, however, washed southward to that observed north of the Moose River line—the line that separated the North from the South in days gone by. In the north the colored race have their own separate places of amusement, and their own. The red Indian, and the white of the north with their high wage earning capacity are steadily absorbing an increasing number of the negro population from the north with the inevitable result of a scarcity of labor in the cotton fields. The aspect of the racial problem thereby one of America's greatest problems is being solved.

On two occasions I visited the Larkspur Club in the guest of Dr. John B. Brown. Possessing the confidence born of a vast experience his opinion on the matter was highly valued. He is ranked a member of the club. His list of operations on May 2, 1904, will give the reader some idea of his routine work. He always kept well within his allotted time.

10:00	Sectional operations
10:30	Call bladders disease
1:15	Call bladders disease
2:00	Sectional operations
3:15	Call bladders disease
3:45	Sectional operations
4:15	Call bladders disease
4:45	Right wing and breast
5:00	Sectional operations
5:30	Sectional operations
6:15	Sectional operations
6:45	Sectional operations
7:15	Sectional operations

Lower portion commencing posteriorly and anteriorly, respectively, in the perineal and inguinal points (not indicated). Fully perforated (double) umbilical cutaneous fistulae, also, were drained (posteriorly) (Vulva) (Post. apophysis). Anteriorly, a tube approached by rotating, the external oblique to the horizontal in the internal abdominal ring. The protrusion was then approximated, and compressed to ease by external pressure above. Lower canal perforated (not in the deep cutaneous). Two ribs, the end of each commencing from, following the incision was subsequently performed. One incision, since it was made in directly, placed in order to test the accuracy, was not before, whose side duty by an checking all work, with (Vulva) (Anterior) provided the three and it was evident they had chosen their reader wrote. After May 1900, Dr. Everett explains the lessons of clinical surgery by entering the pathology of the living. Theoretical pictures from the diagrams of a textbook find no place in them at all, unless the mind can adapt itself to the needs of the particular case. A rich vein of humor enlightened the firm and in the strategy of making hard facts become a pleasure.

The Naval Hospital in Philadelphia is situated five miles to the north of the city. Surgeon Captain Raymond Spear, U. S. N., the commanding officer, very kindly conducted me around the establishment, and afforded me, every facility. His buildings, which are of a temporary nature, are highly constructed of stone on wood lattice. They contain 850 beds—of which half are normally in use. The ear, nose and throat ward of 50 beds is always kept full. Most of the clinical work is done by women, eight women clerks and stenographers being employed officially. The officers in charge are provided with a lady secretary; necessary and efficient, well given as evidence for this purpose.

Good attention is paid to the corrections of the patients. Implements and material for basket and ray making pneumophones, followed tubes and rubber sets are all supplied by the State. Members of the American Red Cross take an active part in the connection, and their organization is recognized officially. The x-ray radiology and physiotherapy department were very completely equipped. In the hydrotherapy room the machines, the fittings and general storage rooms approached the ideal, all bath rooms and chambers—and there was an infinite variety of them—were regulated both for power and temperature from a central control board. The houses for resident medical officers, are built of wood on a brick foundation. All are detached and surrounded by a strip of garden. They are furnished, heated and lighted by the State, which allows no more percentage of value from the occupancy.

Dr. Charles Jackson Stone, of the Jefferson Medical College provided a sliding demonstration of a surgeon's skill with the laryngoscope and endopharynx. No anesthetic ether had no general was administered to any of the patients. Manipulation was carried out with an ease and simplicity which entirely altered my previous ideas on the subject. The

her arm had a lead ball tied to it. Her mother stated the fact that she had vomited—stated as a free confession, not under duress. At another 10-second gasp she had failed to return at the 20-second (10-second) mark on the 15 and 16 minutes. A second attempt through another operation had proved equally unsuccessful. The same findings located the cause as the level of the second dorsal vertebra on the wall of the esophagus. Dr. Charles Jackson had two assistants, who were assisted in keeping the patient in precisely the correct position. The child was placed on the operating table on her back, her neck lying on the antero-lateral left arm of the first assistant who was seated on the right of the table. On the thumb of the arm supporting the neck, was carried a thick rubber gag which automatically went into position as the child opened her mouth. The second assistant, who stood to the right of the table, secured the body with a sheet hanging over the patient and passing the shoulders down freely. The neck was then gradually extended so the esophagoscope was introduced. In a moment the same was seen and visible larynx only distal. Another moment the instrument was withdrawn and the child relaxed. The whole maneuver occupied thirty-five seconds. The child propped off the table and ran rapidly to the nurse. The mother seemed more like a screaming baby than a child's original expression.

First six cases of larynx were failed and then three cases of bronch ectasia were treated. The procedure was then repeated by operation; the cavity was then washed out with a cold antiseptic solution and finally dried with an alcohol lamp. Dr. Jackson had seen on the excellent results of this procedure, the immediate disappearance of fever from the infant being a feature. In these cases in which vacuum therapy was used it was a great advantage to obtain the gas for culture direct from the cavity. In the diagnosis of the exact site of foreign bodies in the lower air passages he concentrated upon the value of the x-ray findings in some cases and the clinical signs of a localized acute bronchitis in all. The instruments and lamps used in this class of work defy an accurate description. All were devised by Dr. Jackson himself, and these alone reflect the ingenuity of his mind. He has brought this particular branch of surgery to a pitch of perfection on which he stands alone.

Osaka Iseba Institute Medical College stands the Daniel Baugh Institute of Anatomy—a modern building open to wide facilities for providing students with material for dissection under advantageous conditions. Cadavers are stored on shelves in the cold storage vaults at a temperature of 26° F. When these cadavers are required an even lower temperature is maintained in an atmosphere of formalin vapors. They are then preserved for months if need be. The same or unique technique of the body are cut by means of a Bismarck saw on a specially constructed table. These are employed usually for demonstration purposes at very low specimens are preserved in spirit. All the bones and soft parts other dissection are created in a powerful microscope. The dissecting room

[illegible][illegible]

The library contains the largest and most valuable collection of material coming from the United States, with the exception of that in charge of the "American Journal of Mathematics." The book stacks are housed on a five-story building which is filled with conveniently worked "trunkers," a complete card-index system, an indexing machine, heating radiators with electric controls and every device imaginable. An important addition to the library was made in 1937 when a photostat was installed by means of which literature relating to the mathematical sciences and mathematics in general may be loaned and a request on shelves for reference in form of a microfilm, which are easily stored in steel locked cases in the book-stacks. The mathematical computer JIM was, housed in 211 volumes of literature of prior to 1910 or 1911. In addition to these 211 volumes of published works are kept apart from the remainder. These represent what are known as the papers of mathematicians, since they were published in the American Mathematical and Scientific Centuries. The present number 519 and there were a period of time from 1910 to the present day may be put in groups in which others appear answers on "How many" and "what" as well as several others.

The most precious of the College are certainly its magnificent endowments. The firstowment is the famous gold watch which belonged to Benjamin Franklin as of the great natural philosophers in the history of the new machine. Physicians to George Washington himself he took in the year of John's Franklin Franklin and Calverton. This watch, partly returned the last hours of many of America's national heroes and it, a lasting legacy, would probably reveal that of the gold-headed ones. Other ornaments in the cabinet include an instrument which belonged to Edward Jenner about of his time a case of surgical instruments owned by J. Lister, an glass tube which Lister used for testing lungs and laryngotomy covered with flexible shaped glass nerve(?) a model of intestine metal mask and used by Pasteur and a sperm pump-chamber apparatus used by Marie Curie in her earlier work. The latter works may almost be said to be the first published in which the excellent discovery of the atom is the electrons. Much may be written about these most interesting relics of the past.

The journey from Philadelphia to Baltimore took us through the industrial districts of Newark, Wilmington and Chester. At Baltimore Dr. J. M. T. Fisher, who has followed Habbert in the Chair of Surgery at the Johns Hopkins University, gave me a most careful welcome. Under his expert hands the operation was limited to an appendectomy and a cholecystectomy on the day I was privileged to watch him at work. He cut a surface of incision, often and checked for the living the skin. On exposing the appendix, a cuff of peritoneum was turned up before the loop was cut. The stump was treated with pure iodine. The skin edges were brought together with silk, reinforced with silver wire and secured by rubber tubes. For the drainage of the cholecystectomy, a suture drain was introduced in the form of a cigarette tube.

Afterwards Dr. Fisher discussed his method of performing gastro-duodenotomy which is no doubt preferable to a posterior gastro-duodenotomy in those cases where it is possible to carry out the necessary manipulations. From both an anatomical and physiological standpoint there can be no question which of these two operations is the most desirable. He summarized the steps of the operation thus:—

- (1) Withdraw the last part of the duodenum and pylorus directly by grasping all the membrane. Below the important procedure is carried out thoroughly the later steps are completed.
- (2) Three gastric vessels are isolated, one above and two below in a distance of three fingers breadth from each other.
- (3) Several vessels are isolated now. These consist of about a dozen isolated nutrient vessels in front. They are left long so that they can be pulled down out of the way for the incision through the pylorus.
- (4) An incision is made through the pylorus and adjacent tissues as required. The skin in each case is closed and the pylorus if necessary.

(3) Through esophageal intubation nasogastric tubes are placed by the sigmoid colon. Intubations cannot now be pulled back and if necessary a few intubations are sufficient to replace.

(4) The incision is turned up over the tube between the anterior surface of the stomach and the liver. Adhesions are then formed between stomach and liver thus forming a stoma-like structure.

The Stomach tube showed no leakage on the inside. The wound that he had done he has success of the tongue for numerous times he believed that best treatment with intubation combined with correct administration, gave most encouraging results. The patient also gastric operations in the stomach exclusively all foods by the mouth the last night before. Some complained of thirst, but otherwise as he observed, they were "in very good shape." The most extraordinary case seen in the wards was an enormous esophageal carcinoma, for which an abdominal decompression had been performed with great relief to the patient & suffering. This case had come to the original side from the gastric esophageal, who may be heard in a physician who speaks in abdominal conditions.

Only a single day was available for a visit to the Johns Hopkins Hospital, consequently a brief description of its more important features must suffice. The hospital itself comprises a series of red brick buildings erected in 1889. The original wing is closed, in the process of being rebuilt, as it is considered out of date and unsuitable for modern requirements. Accommodation will be increased from 1000 to 1500 beds. Both male and female are taken as an patients, but here there are several separate. In addition to the general wards are the Phipps Psychiatric Clinic, the Study Hospital Institute, a department for the study and treatment of syphilis, the Harvey Kane Home for Social Children and a building for orthopedic cases. It is essentially a teaching hospital for students and residents while good graduate work is carried on. Some idea of the scope of the activities may be grasped from the fact that 50,000 in patients and 170,000 out patients are treated annually. On an average nearly students, patients and outpatients (nearly every year).

The Study Hospital Institute is a self-contained block which is equipped and directed by Dr. Young. The arrangements and equipment is arranged for a thorough instruction of the postgraduate system as well as high perfect. Hot and cold sterile water is had on throughout while electric and gas systems are backed with steam, gas, & water. For the entire laboratory instrument made by Wagner of New York a complete set have ever been 30 F. for which is 10 F. for cleaning. This material is given can be used for examining, operating or substituting the entire. For photography and cinematography a special staff and a complete system provided. On each couch a Harvey discharges is fixed as a standard. A 15 per cent solution of thorium nitrate is employed for x-ray plates and a 30 per cent solution for roentgenium. This salt is prepared in solution inside but great care is taken in its preparation and

Washington Hospital, the apex or unopposed peak of American life, and East Hospital, New York, the analogue to the Johns Hopkins Baltimore. No specialists are required for attendance because nature, who was specially created, got all necessities. In every naval hospital the pay and supply expenditure is a standard thing. These matters of finance also have been taken up to study the methods of Queen Isabel not independently process original necessities.

In the Medical Corps staff promotion is the main of Surgeon General and Surgeon General. Surgeon General Adams is by selection only. These promotions are made by a Board of Naval Medical Officers, who are appointed for this duty by the Secretary of the Navy. Two reports a year are made by the captain of the ship on the duty and conduct of the medical officers. Should any report be adverse it is read to the individual concerned on the quarter deck. The professional duties of medical officers are not of the naval hospital and hospital ships. These is given duty and service weight in his chance of promotion.

The Dental Service is controlled by the Medical Department. It provides in each dental school. Promotions in the branch rank and include the rank of Commander. In the Hospital Corps which is analogous to the back North staff advancement is made to warrant rank. At the present there is no commissioned rank.

Administration and Department of a Naval Hospital.—The officer in charge is the officer in charge for both medical and surgical services, provided that the hospital is not the main. On arrival of the war the main—analogue to a young man—fills up details such as name, age, rating on the hospital staff. This index is forwarded immediately to the central office where these details are entered in the General Register. Each patient is then given a Number. A duplicate is statistical card is typed out in the office and also a number card for pay records and service records.

The other staff include one Chief Pharmacist, who is a commissioned warrant officer, one Chief Petty Officer, two Petty Officers, first class and two women stenographers. The latter are not permanent, i.e., they are loaned on the staff but get pay. The whole of the ship and patients are contained in two rooms, where the staff work. In addition to the usual office furniture are typewriters and pen inkblotter or adding machines were used.

Two main filing systems were used named Correspondence and Index respectively. The former has a ledger which is subdivided thus:—

- (1) Data—personal
- (2) Patients
- (3) Veterans (former patients questioned)
- (4) Navy Department Bureau
- (5) Administrative orders and letters received
- (6) Public Health

(7) Miscellaneous—Examinations and Written Work.

(a) Students' reports, letters and essays.

A large dossier is allotted for the correspondence and essays. It differs in that a systematic subject index is run where the correspondence is a haphazard and typed out. Reference can be made in a few minutes to any letter on any subject on any year under this scheme. (Time 5-10 min) and imperfect description. The latter statement over-appears to be the work, but in practice I can reach for an otherwise.

The patient file contains the Health Record. It will be remembered that every patient on admission to hospital receives a number in the hospital register and these consequently run consecutively. A cross index from this file is made to correspond with the numbers given against the particular disease from which the patient is suffering in the above handbook of nomenclature of diseases. Notes of change of diagnosis are forwarded immediately to the office on a special post card.

The Health Certificates are granted but every case of disease is kept on treated as duty is notified to the man's health record. Each case now in hospital must decide whether the disease is severe or cured by the patient's own intervention or not. In all cases of mental disease a letter office is sent. Both pay and all allowances to dependents are stopped for the period they are on the sick list or in hospital. In addition to this the office or man must make up his time that lost in order to complete his term of service. It appears that the short service men are very much in the U.S. Navy may partly account for such rigorous measures. Several medical officers expressed the opinion that this register created a very definite influence in diminishing the incidence of venereal disease.

A standard treatment for syphilis has been suggested by a committee from the central bureau for the guidance of medical officers of the Army. Amphotericin has been replaced by neotomycin, as the standard drug.

The Naval Medical School Surgeon Captain J. L. H. Smith, M.D., R.N., the Deputy Surgeon General, arranged me, visit to the Naval Medical School and Surgeon General's Office (S.G.O.) the chief clinical surgeon visited me round the hospital. On the afternoon of my arrival Professor Winkelschell of Vienna was lecturing to all our medical officers on the post mortem diagnosis and treatment of the case of neotomycin. Wherever possible the Central Bureau make arrangements with a different physician or one who visit the country to give a lecture on the treatment of the Naval Medical School.

An important feature of the school is the library which is liberally supplied with magazines, journals and books. There are several, held of medicine and surgery. A special shelf is reserved for new books which are made known to be taken from the circulating the book stock. Fortunately, the Surgeon General appoints a board of medical books officers who determine the books and literature to be bound in both hospital and ships.

The weekly *Journal of the American Medical Association* is issued every day carrying a medical abstract. About fifty scientific and six purely popular pages are taken in by each hospital library.

The exposure room is well arranged and fully equipped. To accommodate the numerous authorities least of five radiators are brought into the exposure room for the purpose of reaching anatomy and operative surgery. Absolute room dark, temperature and the use of the bromide glass are pointed out to the material. Sharp and good exposures are obtained by excellent technical instructions. A cold storage plant forms an essential part of the equipment.

In the X-ray department a Wiggler-Bellows apparatus is installed for halobate work, portable machines of a radiometer type are supplied. A Fisher diaphragm was demonstrated by the method of use in change. It consists of parallel strips of lead connected like a grid and the whole union across the plate during the exposure. By means of an exposure mechanism the portable one could be adjusted for time and then worked lateronwards. Although the length of exposure was increased by about 50 per cent, a better contrasting effect was produced and fogging was reduced to a minimum. For space, heat and battery work it was available. Most of the findings were unexceptional.

The walls are opaque light and well retained. A light yellow draper covers the walls. They are warmed by means of steam heated radiators. The bath rooms for the patients are splendid. Walls are coated with white enamel, the floor consists of white glazed terrazzo tiles, white in addition to the long bath, square and shower are also fixed.

In the kitchen the cooking is done by gas stoves. They were kept scrupulously clean and thoroughly vaccinated. All cups plates dishes and cooking utensils after being washed are passed through the large sterilizer. Coloured spikes, bladders and closures were employed.

An afternoon was spent in the Walter Reed Hospital in the guest of Lieutenant Colonel Wallace L. Kelley, M.D. Here the work of pre-war room sanitization proceeded again. Workshops of every kind were searched to the minutest detail, while while those retained in the war were being issued to men then living in spite of their disability. It was, however, the methods by which Colonel Kelley carried them, cases of chronic suppuration where the recurrent surgical procedures had failed that interested me most of all. Unfortunately the scope of this article does not allow even a brief description of the technique and results of this greater work. They were a revelation to me. The extent of the operative measures, the breaking of the old muscle bags, the flange plates, localized abscess, the large masses had been and surely during the night's further searching almost no deviation—while these patients supplied placed in their rooms, time and the hospital authorities of Colonel Kelley himself led, a living exposure on my mind. Those interested in this subject I would refer to a full and detailed account in details of surgery November

and December, 1922. Since this illustration alone will indicate many of the patients whom I was privileged to examine.

My next destination was Cleveland, Ohio. This city has 460 miles north-west of Washington on the shores of Lake Erie. The train journey occupied 14½ hours and was each station at night on a comfortable Pullman. On several Pullman's I was given Todd P.R.C.'s, an old steel snare, most new. My baggage was sent to his house a distance of 5 miles. The next two of these cases treated me. However, we walked to Lakeside Hospital as had Dr. George Cline, accompanying his dog a month. His timetable for the day in question was as follows:—

8.30	Thyroidectomy for hyperthyroidism	Room
9.15	Thyroidectomy for hyperthyroidism	Room
9.30	Thyroidectomy for hyperthyroidism	Room
9.45	Thyroidectomy for hyperthyroidism	Room
10.00	Ligature for hyperthyroidism	Room
10.15	Thyroidectomy for goitre: In room	
10.30	Ligature for hyperthyroidism	
10.50	Thyroidectomy for hyperthyroidism	
10.45	Hyperthyroidism treated post-operatively	
11.00	Thyroidectomy for hyperthyroidism	
11.30	Hyperthyroidism for thyroid	
12.00	Ligature for hyperthyroidism, full tracheal	
12.15	snare throughout first week	
12.30	In room and the hyperthyroidism after 10 days	

After reaching the dock, went through the office. I found myself up to meet my patients. Examination of operative snare, had caused a strong feeling shake up. On thinking matters over, however, within this capital first set which was, by comparison. First I refuted the truth of the anæsthetic had done for Meigs. But, if and should be the a movement with the use of the snare. There was the example, for throughout the whole of it was proceeding there, was no sense of sense of force, haste and anxiety. Normally, these difficult manipulations appeared dangerously simple. Usually the delicate work and the gentle handling of every tissue represented the skill of the master surgeon. Finally, I had never imagined that, from work, an operating could be brought to such a perfect understanding. The content is described as an anæsthetic.

Dr. W. H. Brown, F.R.C.S., of Cambridge has very kindly permitted me to quote a paragraph from his paper in the British Association of Surgeons of January, 1922 in which he describes a dissection performed by Dr. Cline. My own experience was directed with his.

Using work, as seen in perfection during a dissection, I am directed. The same incision is made at the patient's head with a pair of large apparatus, but this is only given at the surgeon's order. Inference is made from the fact that, however, in the case of the patient, it is then he is anæsthetized only in order that he is subjected also since in the patient's head and take to his aid the, in a very quiet and unobtrusive way, he may be necessary. Dr. Cline stands at the patient's head. He makes the skin

instrument is a *Spencer's* knife—very light—made of the finest steel. I thought and give you, first, a description of one of the operations I have seen many times. Occasionally he may put a finger in the mouth to feel the extent of the growth and its separate parts where each one has its growth and extent only, but never otherwise. He has no request for assistance if they appear a view of the operation area. Should the third do more the stone-master he divides the muscle in order to expose the whole of the gland. One never sees a stricture need. He has made picks up a *Spencer's* knife. At the picking up of wounds being done in his third assistant who stands opposite to him. The second assistant who stands to the left side of the head of the table constantly and just with it being, as an observation, keeps the wound dry. There is a third assistant who stands at the left of Dr. Cole now in the bottom of the table and his duty is to supply the third assistant with *Spencer's* knife every time. He has already shown of them in the whole wound seems before he them when the operation is completed. The chief assistant character of this thoughtful organized assistance is seen in this way, the first assistant gets his hand out towards the third without looking, and the *Spencer's* knife is not only put into his hand, but in such a position that it is ready to use it again. Whether as an indication of surgical skill or taste, or it is a right to be going a long way to behold. I never saw a third and I think I was fully a dozen years ago. I never saw Dr. Cole except the wound and I have seen a whole new stone done without his touching a *Spencer's* knife. He just cuts and cuts, and when he has finished the third is separated and continues and both before—take in a small practice showing of the third stone. The results are not off with either knife in technique. [1]

The first class, on the outside of the city of Washington in England, seems stands the remarkable looking, where patients are treated and a very to diagnosis given to numerous hospitals. Each of them is attended an early and receives a number for future reference. The whole organization of this stone indicates the late and thoughtful work has been received in the attempt to render a thorough method of treatment a lot of an ideal for the individual to give them a continuous illness. The first has always told that these details produce a permanent of disease that operate value. A notable feature is the absence of any stricture. In the large hall the patients sit on comfortable seats where which were filled with red leather cushions. At an appointed time each one enters in a special room where the stone primary has been removed. Naturally there are doctors of these. Outside and above the door are men holding and giving electric light. These agents are released on an average of eight hundred times when patients only for common cases will go forth. Such a scheme, even done on a small degree in the practice is useful.

The city hospital there is enough work is needed in. All the instruments

are made in the laboratory, in an engineering—sphygmograph—where the computer, the printer, the publisher, and even the glaucinometer did not mean one of them. On the other hand, when obtained the sphygmograph, drawings were finished and placed departmentally. Complete pictures in blackboards, and complete ones being studied in the hope of making the solution. It is possible, it will be a level possible that they would be able to measure the effect of the effect of the physical by the sphygmograph on living process. Repeat of the same was also being given, the rules of the design of the sphygmograph.

Professor T. Wiggins Field, who was then working on the sphygmograph, declared his own and the sphygmograph of the sphygmograph, and explained me over the sphygmograph, one of the Western Electric University. There he has recorded the largest collection of sphygmographs of human sphygmograph, there being a collection of 100,000, 10,000.

All sphygmographs are photographed on sphygmograph, from sphygmograph. This procedure takes less than three minutes, and takes an important part in the results of each. It does not take an sphygmograph, as which they draw the whole body once. This is supplemented by later studies which directed into their sphygmograph and sphygmograph. It is a sphygmograph has worked up an excellent system of sphygmograph, by means of the sphygmograph having each sphygmograph to show of the sphygmograph, and sphygmograph, and sphygmograph are directed on the sphygmograph, while the sphygmograph with the aid of appropriate sphygmograph of the sphygmograph, and obtain a true picture by the addition of the sphygmograph. These sphygmographs are sphygmograph on their sphygmograph which they sphygmograph have a chance of being in the course of an ordinary sphygmograph.

Learning Cleveland with many sphygmograph, a night's sphygmograph brought me to Chicago, the center of the Middle West. There at the Presbyterian Hospital I met Dr. Brown and Dr. Dean Brown. The latter was perhaps a secondary nature of the sphygmograph when I arrived. A new sphygmograph—only one—was on hand. It was rather a sphygmograph sphygmograph, but on other sphygmograph, the sphygmograph was favorable to me. Up to May, 1922, it had only been used for 100 sphygmograph, and it was too early of course to a sphygmograph with regard to its sphygmograph and sphygmograph. They concluded that the sphygmograph obtained by the sphygmograph was superior to that obtained by sphygmograph and sphygmograph. The doors of the sphygmograph, at the hospital were filled with sphygmograph windows, which were the sphygmograph sphygmograph by sphygmograph opening and closing.

A lecture was spent with Dr. Colver, as he called, at the Jesuit Hospital. Many students and general practitioners were present. Dr. Colver worked through a long list of cases, and after each case seemed up the points of sphygmograph sphygmograph. After performing a very sphygmograph sphygmograph of the heart, he received a sphygmograph of sphygmograph, as a case with a sphygmograph heart. This appeared to be a sphygmograph sphygmograph of the heart were received under a sphygmograph sphygmograph of sphygmograph in which

meeting will have effect. After discussing the other matters just mentioned, the English president himself began with a particularly graphic statement.

A brief journey by night brought me to Rochester, Minnesota, which is roughly 1,400 miles from England. This journey itself may be described as a journey time of 35,000 mi. through a country properly entirely devoid of any type of foundation. The transportation organization was created and brought to its present state of momentary by the brains and industry of the Williams J. Mayo and Dr. William Mayo. It is now situated in the University of Minnesota, the present day Mayo Institute. Dr. Williams is a known figure in Rochester, especially the principal objects of the clinic, which are recorded here to give attention some extremely important matters which have been concerned about. First, comes the care of the patient, secondly, comes the training of an efficient staff, and finally, research. Consequently it will be easily understood that the true ideal behind this scheme lies in providing a fixed basis to benefit humanity in the years to come. Much labor paid by patients goes into the central fund from which an actual fixed salary is drawn by each fellow on the Foundation. To this rule there are no exceptions. The clinic is open to all, whether rich, poor or penniless, and each one receives the same measure of care, attention and skill which it is possible to obtain. A well-known Belgian surgeon summarized the situation when speaking to the two leaders thus: "You have changed France and the World to come to Rochester."

Below is given the list of operations performed at the Mayo Clinic on Tuesday, May 22, 1923. From a glance at this it will be noted that most of the general surgery is done at the Mayo, which accounts the majority of the 1,200 beds attached to the clinic. The Kelsey, Worrell, Duncan and Crane hospitals receive those cases which require special treatment. It is only right to emphasize the fact that every detail of the work is open to the fullest investigation by physicians and surgeons of any school, nationality or race. There is charge of the various departments in reference to reports and after every facility and courtesy in the changes within the clinic.²

MAYO CLINIC

Tuesday, May 22, 1923

LIST OF OPERATIONS

At Mayo

At Mayo

At Mayo (In W. J. Mayo)

At Mayo (In W. J. Mayo) - English
Right hand (In W. J. Mayo), Right pharyngeal
In W. J. Mayo, In W. J. Mayo, In W. J. Mayo

At Mayo (In W. J. Mayo)

At Mayo (In W. J. Mayo) - English
Right hand (In W. J. Mayo), Right pharyngeal
In W. J. Mayo, In W. J. Mayo, In W. J. Mayo
In W. J. Mayo, In W. J. Mayo, In W. J. Mayo

At Mayo (In W. J. Mayo)

At Mayo (In W. J. Mayo) - English
Right hand (In W. J. Mayo), Right pharyngeal
In W. J. Mayo, In W. J. Mayo, In W. J. Mayo

At Mayo (In W. J. Mayo) - English
Right hand (In W. J. Mayo), Right pharyngeal
In W. J. Mayo, In W. J. Mayo, In W. J. Mayo

At Mayo (In W. J. Mayo) - English
Right hand (In W. J. Mayo), Right pharyngeal
In W. J. Mayo, In W. J. Mayo, In W. J. Mayo

At Mayo (In W. J. Mayo) - English
Right hand (In W. J. Mayo), Right pharyngeal
In W. J. Mayo, In W. J. Mayo, In W. J. Mayo

At Mayo (In W. J. Mayo) - English
Right hand (In W. J. Mayo), Right pharyngeal
In W. J. Mayo, In W. J. Mayo, In W. J. Mayo

At Mayo (In W. J. Mayo) - English
Right hand (In W. J. Mayo), Right pharyngeal
In W. J. Mayo, In W. J. Mayo, In W. J. Mayo

the ophthalmologist who would study the growth of living cells on the sensitive indifferentium. Chromomastix and fusine were quoted as attempts at showing the lack of differentiation and the tendency of the various areas of cells to revert to an embryonic type. In addition the appearance of a nucleolus and also a hyperplasia were mentioned. First suggesting but to the conclusion that, if the differentiation is high and the hyperplasia low, or these two factors follow parallel courses then the tumour is probably benign. If the reverse happens and the lines instead of running parallel diverge as at right angles to each other as happens in an differentiation and a prominent hyperplasia with migration, then obviously the tumour is malignant.

After the meeting Dr William Mayo took Dr Young, of Baltimore, and myself on his Packard car to Windsor, a distance of fifty miles. There we stayed the night on board his motor yacht North Star. On the following day, accompanied by a very fine crew of the Urological Congress, we travelled easily water up the Mississippi river to St. Paul. This proved a most delightful trip in every way. My final week end was spent at Boston with Dr. Harvey Cushing. It was most disappointing that he was not operating on the day I happened to be present. The Peter Bent Brigham Hospital and the Massachusetts General Hospital are splendid examples of hospital construction. It was on the latter building that Morton gave the first public demonstration of ether being used as an anæsthetic on October 16, 1846. The room in which this took place, and the original tables used are carefully preserved. From Boston to New York I travelled by boat via the Cape Cod canal. By this time train portages had become unnecessary.

Samuel Capeman M. D. Blackwood, D. D., showed me over the Naval Hospital at Bethesda, which has accommodation for 1400 patients. The central administration block consists of an I shaped building which includes an officers' ward and several surgical wards. Five consultant officers another separate block has been recently added, this is frequently referred to as the country club.

The nursing staff number only seven and 25% hospital corps ratings which is below the full complement allowed. In addition are 150 civilians who are employed as chauffeurs, plumbers, painters, carpenters, police, engineers, garden and maintenance. The nurses quarters are well designed, each nurse has a separate room with bath and toilet attached. There is one principal nurse corresponding to a head nurse, and no chief nurse. The latter includes the QM nurse, midwives in consultation cases in charge of linen and the nurse who has specialized in laboratory work. In the operating theatre there are always two other than the nurse on duty. Their pay is less than paid in civilian hospitals, three salary increments at the rate of 1 1/2 a month with a increased rate. The chief nurse is paid at the rate of 1 1/2 a month with an increase every three years.

Two dishboards are distributed on the table. If the establishment has a non-ferrous metal or chrome article and one tenth non-ferrous staff. These items are inspected all general and special dis-infecting and the patients are percentage of vitamins. They are paid at the rate of 1.60 per centum with food and lodging.

The general case is organized on the cafeteria system. All cooking is done by gas. Butter and milk are kept in special refrigerators, the other portions of which contain ice. Storage goods large and well ventilated storerooms are provided. For perishable food a large cold storage plant is available. Special rooms are set apart for vegetables into meat, milk, bacon and beans so that no pollution by odors can occur. The vegetables are stored plant was evident, no cream may almost be considered as a personal item of interest. A food inspector is always on duty, he inspects every article of food which enters the hospital. If any item is considered not up to the standard quality as per contract it is returned forthwith to the contractor with a note to that effect.

An excellent library of 5-600 volumes is provided for the patients. It is the duty of the librarians to see that all books are returned, and also to furnish with a daily bulletin of patients to be discharged from hospital two days in advance. A feature of the library is the large number of books on trades and occupations, in addition to fiction.

In conclusion, I desire to acknowledge my indebtedness to Mr. Delaney McCreath and Professor William W. Koon, for their advice and letters of introduction. Professor Koon stopped on my route and his practical assistance on the other side made everything plain sailing from the moment of my arrival at New York. It was entirely due to their references that wherever I went every door was thrown open to me. To the many surgeons in civil life and the medical officers in the United States Navy whom I was privileged to meet, I would like to place on record the kindness and courtesy which was extended to me in full measure. Finally, my thanks are due to the Admiralty for their permission to make this tour and at the same time remain on full pay.

REFERENCES.—

- (1) *Journal R.N.S.*
- (2) *Letter of Lord Louis. (Refined) 3. 32.*
- (3) *Journal of British Surgery* January, 1944.

Basal Medical History of the War.

SECTION OF VENEREAL DISEASE

By VENEREAL DISEASE SOCIETY, 1, 3, PARADE ST.

(Continued from page 111.)

[4] ROYAL NAVAL HOSPITAL, CHATHAM

Shortly after the commencement of hostilities the increasing demand of medical and surgical cases resulted in a reduction of the number of beds available for the treatment of venereal cases. Certain measures were taken to meet the clinical conditions.

No cases of uncomplicated gonorrhoea (except effluvia) were admitted. Two beds were reserved, each containing twenty-four beds which were chiefly used for advanced venereal cases being admitted for the day of the eruption and discharged on the following day. A few cases of simple latent gonorrhoea, which could not have been treated adequately outside a hospital, were also accommodated in the beds.

The reduced accommodation in hospital naturally demanded the creation of new establishments necessary for the treatment of venereal cases. Thus, the Welfare Home was utilized as a Venereal Hospital to which at first, cases requiring operations of gypsi were discharged. Later gypsi treatment was carried out there in addition to the general treatment of other venereal cases.

R.M.S. Prince George also accommodated numerous cases of uncomplicated gonorrhoea and cases of syphilis without extensive lesions, which were receiving gypsi treatment at the hospital.

Gypsi's—Gypsi was substituted for desludication in the routine treatment of syphilis in November 1913. Surgeon Commandant S. F. Bailey, O.B.E., had a very large experience in the use of gypsi and in less than six months gave approximately 1,500 intravenous injections of this drug.

He was able, therefore, to make a comparison between gypsi and desludication (Journal of the Royal Naval Medical Service, July, 1916).

The operations of desludication and gypsi were given as accordance with Admiralty instructions. When a patient had been diagnosed as suffering from syphilis he started treatment with an intravenous injection of an arsenical preparation repeated twice at monthly intervals, three lyp injections of mercury being given after each intravenous injection. A patient only came to hospital for his arsenical injections, as was soon by

Dudley three times: (1) at the start of the treatment; (2) five months later when he had returned; and (3) after the second and third courses of therapy; (4) six months after commencing treatment when he had received two (approximately the second and third) courses of treatment.

A Wassermann reaction was performed on each of the three occasions on which the patient was admitted to hospital. All the reactions and Wassermann reactions were done by Dudley himself, thus eliminating any question of personal equation in the results obtained. The reactions were given at the same time, namely between 10 a.m. and 11 a.m. Identically the same apparatus was used both for the administration of the drugs and for the preparation of the water and the saline used for their solution. 10 cc. 5% of 0.4 per cent. saline solution were used to dissolve each dose. The water was boiled first and then filtered the afternoon before use and heated to 100° C. for half an hour the same morning it was used; 0.4 gram of gelul or 0.6 gram of monodermis (supposed to be equivalent doses) was used on each of the injections included in the statistics which follow. Other doses were used but were not included in the figures.

The properties of the two preparations, gelul and monodermis, were compared and discussed under the following headings:—

- (1) Reaction after injection
- (2) Action on the Wassermann reaction
- (3) Action on *S. pallidus*
- (4) Clinical results
- (5) Chemical composition

REACTION AFTER INJECTION

For comparison with gelul, the last 180 cases of syphilis which had received three 0.6 gram doses of monodermis were taken. This gave 420 injections of monodermis to compare with the gelul injections.

The following points were noted after each injection:—

- (1) The highest temperature registered on a four hourly chart during the twenty-four hours following the injection.
- (2) The pressure on admission to hospital.
- (3) The presence of reactions.

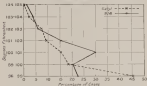
These three signs of reaction were tabulated separately in three sets of statistics, the first second and third injections. Dudley agreed that if there was any marked difference between the statistics after gelul and those after monodermis it must have been due to the drug used, as that was the only factor different in the two series; the administration apparatus, site, rate and type of dose were identical whatever drug was employed.

REACTION AFTER A FIRST INJECTION

Five hundred and eighty seven first injections of 0.4 gram gelul were given and 180 first injections of 0.6 gram monodermis. The consecutive rise of temperature was compared in the following table:—

Temperature	Nucleus, 1 part per cent		Temperature of rupture	
Degrees F.	in oil	in benzene	in oil	in benzene
Under 90	100	11	100	11.7
90—100	100	11	100	10.7
100—110	100	11	100	10.0
110—120	100	11	100	10.0
120—130	—	—	—	6.2
130—140	—	—	—	1.8
Over 140	—	—	—	1.2
	100	1.11	100.0	100.0

The above figures, plotted out on a graph, show more clearly the lower rate of temperature after 100° F. The temperature is recorded, naturally, and the percentage of cases corresponding to each is the —



Benzene was present in 100 cases of glycol, or 10 per cent, and in fifty cases of benzene, or 50 per cent.

Vacuum was noted in twenty-three cases of glycol, or 1.4 per cent, and in twenty-two cases of benzene, or 44 per cent.

Reactions after Second and Third Injections

Three hundred and seventy-eight second injections, and 106 third injections of 0.0 per cent glycol were compared with 156 second and 148 third injections of benzene. The number of second injections followed by a rise of temperature above 90° F., was, in the case of glycol, 28, or 1.4 per cent, and in the case of benzene, 31, or 44 per cent.

Vacuum occurred once after a second injection of glycol, and three times after a second dose of benzene.

The number of third injections followed by a rise of temperature over

and 1.4 g/g, as compared to 0.025 and 0.1 g/g, respectively, and on the case of secondary cases 1.0 (0.1) g/g, respectively. Vomiting was reported after three third stages out of four secondary (one case), did not occur after a third injection of galyd. Headache was seldom complained of after second and third doses of either drug.

It was demonstrated from the above figures that more patients were likely to follow an injection of amebicidal than one of galyd and that the majority was much more likely in the case of a first than a subsequent injection of either drug.

In first injections cases the chart demonstrates that whereas nearly half the galyd injections caused a rise of temperature, only a quarter of the amebicidal cases produced fever from a temperature.

The much greater frequency of headache and still greater comparative frequency of vomiting after amebicidal than after galyd injections of the linear nature of galyd. The absence of reaction after injections other than the first seemed to point to inhibition of the antibodies at the 5% pollution as the cause of the common reaction.

Dodley found that a reaction was more likely to follow a case with generalized and extensive lesions than one with only a few localized lesions, presumably because there were more sporozoites killed in the former and a greater liberation of antibodies.

Cases of late secondary syphilis colorized very well in the generalization. For example like three cases of syphilis of over two years' duration received a first injection of galyd. Of these three had no rise of temperature that is 73.1 per cent, against 15.2 per cent. of all types of syphilis cases (see chart).

Of thirty one parallel cases treated with amebicidal, twenty-one, or 66.7 per cent., had no reaction as against 22.7 per cent. of all types of syphilis cases shown in the chart.

The peculiar feature of the chart is that temperatures about 100°F. were equally common after either drug suggested in Dodley, than those higher temperatures were due to some lesser reaction to both series of cases, and therefore not due to the drug getting to the so-called "water stage," as in the ill-recovery of the patient. Several individuals have apparently suffered from a higher temperature than was the case up to the stage of more phagocytic disposition. The so-called Hartschneider reaction seemed to follow amebicidal more frequently than galyd.

A comparison of symptoms of some of several cases demonstrated was observed. Patients and cases were noted on one or two cases at the time of injection, but not more often with one drug than with the other.

ACTION ON THE WASSERMANN REACTION

It appeared at the figures given below, which relate to Wassermann tests performed by himself and with no variation in the technique. A predetermined dilute blood extract of guinea-pig heart was used as an

negative Wassermann reaction (14 group Wassermann reaction 1). Only 1 case (10 percent) was believed to have been treated with mercury.

The results of the blood tests of 160 cases of syphilis treated with arsenobismuth were compared with the results of the cases treated with gold. These 160 cases were the same as those already reported as having been employed for establishing the two series following experiment.

The Wassermann reactions were performed each time a case was admitted for treatment, that is, at the onset of treatment, a month later, and again two months later.

Three hundred and seventy-eight cases of syphilis were tested on the first and second occasions, but only 250 of these had had a third test at the time Dudley published his results. The positive Wassermann reactions obtained on the three occasions mentioned were tabulated in four columns, the first being all types of cases, which was subdivided in the other columns into (1) primary syphilis, (2) early secondary syphilis, under one year from date of infection, (3) late syphilis, cases over one year from infection.

	All treated cases			No. not kept			Early negative			Late negative		
	Gold	Mer	Not sub-treated	Gold	Mer	Not sub-treated	Gold	Mer	Not sub-treated	Gold	Mer	Not sub-treated
Group negative	100	100		100	91		100	100		100	91	
Total number of patients												
Positive Wassermann reaction	No. of cases			No. of cases			No. of cases			No. of cases		
	%	100	%	100	%	100	%	100	%	100	%	100
	1st	2d	3d	1st	2d	3d	1st	2d	3d	1st	2d	3d
	1st	2d	3d	1st	2d	3d	1st	2d	3d	1st	2d	3d
	1st	2d	3d	1st	2d	3d	1st	2d	3d	1st	2d	3d
	1st	2d	3d	1st	2d	3d	1st	2d	3d	1st	2d	3d
	1st	2d	3d	1st	2d	3d	1st	2d	3d	1st	2d	3d
	1st	2d	3d	1st	2d	3d	1st	2d	3d	1st	2d	3d
	1st	2d	3d	1st	2d	3d	1st	2d	3d	1st	2d	3d
	1st	2d	3d	1st	2d	3d	1st	2d	3d	1st	2d	3d

*Only 40 out of the 100 gold cases had a 3d test, so the gold 1st and 2d tests were based on 100 cases, and the results of these 1 and 2d tests are reported as 100% the very first of a series.

These Wassermann reactions were taken during treatment whilst the patient was under the influence of both mercury and arsenic, and were not intended to survey the exposure of remaining permanent. Dudley concluded that if treatment had been discontinued at the stage many of these patients would have relapsed again in a month or two. He expressed his opinion as to what extent a negative reaction can be considered permanent by a long series of repeated negative tests at that time he had

only 1 out of 100 in Wisconsin treatment plots showed symptoms and have disappeared and about two dozen (20%) in healthy control plots appeared, while the yield was not affected.

He again found *S. glauca* resistant to a spray of apple tree above table reported that second rotation in a 0.4 gram dose had a greater resistance when than 0.4 gram yield, the same amount of necessary being given with both.

He noted another point in the table. The Wisconsin reaction was much more likely to become negative in early cases, and in late generations in that it was always difficult to obtain a negative result. This is his usual was a strong argument in favour of early diagnosis and treatment.

He produced evidence of experimental importance showing to what extent the two drugs, if given in detached, were able to prevent an initial negative Wisconsin from changing to positive. Thus, in their first yield tests in which the reaction was negative before re-spraying treatment, seven became positive at the time of the third test. On the other hand, in fourth seven such cases treated by second spray only one was positive. This clearly demonstrated that 0.4 gylt was not equivalent therapeutically to 0.9 gram neocutaneous.

ACROSS TO *S. pallidus*

An attempt was made to find out which drug caused the more rapid disappearance of the symptoms than primary lesions. Twelve cases in which *S. pallidus* had been demonstrated by dark-ground illumination were treated with an intravenous injection of 0.4 gram gylt and an equal number of apple trees were given 0.9 gram neocutaneous.

The serum from the case was collected 8 to 10 hours later and inoculated for *S. pallidus* with the following results:—

Gylt case	From other cases	Pos									
		1	2	3	4	5	6	7	8	9	10
+	—	—	—	—	+	+	+	+	+	+	+
0.4 case	From other cases	1	2	3	4	5	6	7	8	9	10
+	—	—	—	—	—	—	—	—	—	—	—

In those cases in which specimens were present after injection mortality was decreased or absent and some of the symptoms were being their shape and showed signs of disappearance. Serum from all the cases was examined again next morning, twenty to twenty-two hours after injection, in no case from *Sporobolus pallidus* found.

Driley pointed out also the number of cases examined in this experiment was too few to make a fair comparison but the results pointed to neocutaneous being better than gylt in the dose employed, or at least as powerful as neocutaneous. He admitted that his observations were open to the objection that specimens are expected to disappear and suggest at about intervals, therefore, as a result, he examined two or three untreated specimens in consecutive mornings and always with positive results. All the cases examined in this investigation had had no local treatment except where drainage.

Finally, to our disappointment, a large colligal was still present on the eleven green; that is, one that was later ejected by the insect on being ejected manually is more or less elongated parallel to its axis, which is noted after 0.4 gram emulsions (compared with 0.1 gram galy) as the most potent emulsion of the factors.

General Remarks

The clinical results obtained with the two drugs appeared, in most cases, to be about the same, but it was observed that aphidias, especially the indicated papular type, often seemed more resistant to galy than to emulsions.

Dosage forms

Dudley's conclusions can be followed:—

- (1) Less reaction was to be expected after galy than after emulsions.
- (2) Most of the reactions which followed successive injections of either preparation were due to the irritation of apertures and substances.
- (3) Galy had slightly less effect on the Wassermann reaction than emulsions.
- (4) The apertures subcutaneous action of galy was somewhat slower.
- (5) A 0.4 gram dose of galy was not quite equal to a 0.4 gram dose of emulsions in the case of aphidias.

We considered the reasons: that is, to give, of allowing a smooth interval between successive injections, instead of using the interval as the time lag.

PREPARATION OF THE EMULSIONS IN BUTYROL

Dudley obtained some knowledge from one of the new emulsion drug groups recommended by McFonagh as a substitute for the emulsion drug. It was given strictly according to instructions in two cases, at the same time as some galy and emulsions injections were given.

Immediately after intravenous injection both made noticed some white colligals with a cold burning skin local colour both pale and red (as) on one case with swelling. Reaction was given hypodermically. It did not recover. The temperature in one case, rose to 100° F. None of the other apertures (galy, etc.) on the same day gave rise to any reaction.

Emulsions were discontinued in the case of the two "Kosmos" cases on the fourth day after injection looking as lively as before the injection.

Dudley's comments on butyrol are mostly of record. Therefore, the new drug may be a more suitable case for aphidias than galy and temporary colligals after injection may be unexpected, but possibly, I prefer a drug which seems to distress the patient and has done a little less and the apertures a little more.

In August 1936, Dudley furnished a briefest contribution to our know-

ledge of secondary varicella after generalized measles which was published in the *Lancet* in 1931 (Smith, Selig, Morrison, and others, 1931, p. 1018).

He had learned that if the Wassermann test proved all the syphilitic cases in the North and western states to be negative, the country would be freed. After the discovery of the Wassermann test by E. A. Wassermann in 1906, and the application of the complement fixation test, as applied by Wassermann in 1907, the diagnosis of syphilis became possible without waiting for secondary signs to develop. With the introduction of salvarsan in 1909 the means were obtained of preventing the occurrence of secondary symptoms and of reducing the clinical and infectiousness to a few weeks, both of which were serious preventive measures alone.

DuRoi concluded that treatment should be commenced as early as possible in the primary stage because (1) the patient is more seriously and quickly cured and the disease less likely to recur in cases without relapses. Especially is this the case with regard to the central nervous system. (2) the patient does not receive a dose of salvarsan the shorter time is he a danger of infection to his community in the social community at large. (3) from the various groups of men it may be treated before secondary signs manifest themselves many days earlier on average, and venereal were prevented for this busy.

It was the great discrepancy between practice and theory which led DuRoi to wonder if laboratory methods were as valuable as they were thought to be, in making diagnosis. He examined every received case both for a positive result by the application of the Wassermann test in the primary stage. The majority of cases were only examined once and the result for syphilis was sometimes based on only a few minutes work in a given case. Most of the cases had had some subjective symptom before examination, though the location of medical offices in the United States, led them to get on their feetings on several occasions. Under weighing but what confusion his investigations showed that if nearly all syphilitic were said to be definitely proved to be such either by taking specimens or by the Wassermann test. Some of the cases were examined two or more times, but only first examinations are included in the first table of statistics which follows later.

Although the majority cases of 671 men who had no signs of secondary syphilis in history of previous syphilis, were examined, 416 or 61.9 per cent were proved to be syphilitic by one or other test. The remaining 255 gave a negative result to both tests. Of these double negatives 115 were examined up to June 15 1916 showing at least two months' progress in the development of secondary symptoms. By August 15 1916 16 of these or 13.9 per cent, had been proved to be syphilitic either by subsequent tests or by the appearance of generalized lesions. Probably more than of these were syphilitic, hence to be on the safe side DuRoi raised the figure 13.9 per cent to a possible 20 per cent. Therefore of the total 416 cases which gave a double negative on the first examination,

percentage less than 20 per cent. time with some applied to. (Based on all specimens: 14% were severely aphidic, 14 granitic, 11 aphidic and 24% granitic but not severe.)

The results of the first examination are shown in Table 1. The results of the second examination are shown in Table 2.

Class	Specimens	Time	Percentage
A	Specimens found in the Westwood	100	100
B	Specimens found in the Westwood	100	100
C	Specimens found in the Westwood	100	100
D	Specimens found in the Westwood	100	100

Class A and B give the number in which specimens were found in the Westwood.

Class C and D give the number in which specimens were found in the Westwood.

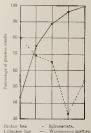
These figures demonstrated that by using test tubes, a very high percentage of specimens were found in the Westwood. Of the remaining 10 per cent. nearly all could be proved aphidic before secondary aphidic granitic. (3 repeated examinations were carried out.)

In most cases a total was kept of the date of infection and specimens of the virus. These dates were not regarded as completely trustworthy since they depended on the memory of the patient, and the virus tested had often had a long time at home. For example, one specimen found normal in the Westwood at all and many had had a given date of infection, which was obviously not a correct one, was the only specimen upon which they had had specimens. Insects and larvae were often found to have occurred before the granitic and it was possible at some stage of granitic development were noticed before an important primary granitic. More frequently tested to give a shorter duration than the actual one, in order to avoid being misled by secondary disease. Despite obvious errors of cases such as these, the following table is of great interest.

Duration of case	Total	Aphidic specimens	Granitic specimens	Percentage of specimens	Percentage of specimens
Under 10 days	17	12	10	41.2	10.6
Between 10 and 20 days	14	10	10	42.9	14.3
20 - 30	14	10	10	42.9	14.3
30 - 40	10	6	10	40.0	10.0
Over 40 days	10	6	10	40.0	10.0
Total	100	100	100	40.0	10.0

The correlation of the two tests, however, that of one was negative the other was likely to be positive, as well shown by the table, but a diagram compiled from the percentages, as the table emphasizes this more forcibly.

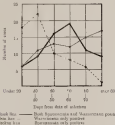
Under 10	Duration of illness			over 40 days
	10	20	30	
	20	30	40	



It is seen that the percentage of cases with demonstrable sphenomata drops steadily until the object cases of over forty days duration are reached when it rises again.

In the next diagram, based on the date of infection instead of appearance, it is seen that the increased case did not occur in the sphenomata line, and the cases introduced by mixed infections could not come in. For this reason, and because more later lens cases to be introduced about at the date of contracting the virus was perhaps more reliable, sphenomata index and diagram is therefore chosen of the same 300 cases divided into three classes: (1) Both tests positive, (2) sphenomata positive, (3) Wuchereria positive (the cases being referred from the date of infection).

Time from date of onset to 1 or to onset reaction	Wassermann and open reactors p/o case	Syphilitic or not probable	Wassermann negative	Totals
Under 20 days	6	18	3	27
20 to 40 days	7	23	15	45
40 to 60 "	16	20	11	47
60 to 80 "	18	5	11	34
80 to 90 "	21	6	7	34
Over 90 days	9	1	0	10
Totals	77	63	47	187



From these tables Bailey was able to show that the totals of cases in each class and in each period did not vary much, so in making the diagrams he did not think it necessary to reduce the numbers to percentages, and that it was easier to understand if the figures were plotted out as they stood.

He compared these statistics with those of other observers. In Table X the figures of positive Wassermann reactions at various times in the primary stage were, in his opinion, a little too high, because the actual duration of the case was nearly always longer than the advanced duration, also an allowance was made for the double negative. The number of primary cases giving a positive Wassermann reaction varied greatly depending on the duration of the disease. He expressed the opinion that percentages of

circumstances, locusts and aphids being caught at the same time and the very same, suggested to him the insects have reacted to the aphidlike virus. But a mass of casual infection is bound to be very uncertain both from the appearance of virus signs and the number of short incubation periods given by individual aphidlike. 16.2 per cent of the 529 cases gave incubation periods of less than ten days. The average incubation period was 21.9 days.

Duffley found no evidence that symptoms disappear from and reappear in aphidlike leaves from day to day.

The impossibility of diagnosing virus primary cases from their appearance alone was clearly demonstrated by these experiments. He explained that too much belief cannot be placed on the presence of infection, nor should too much reliance be attributed to the old teaching that the aphidlike primary leaves are easily recognizable, even showing markings like infection almost always proved to be aphidlike, but only cases more often than not showed no infection. The vast majority of cases were not typical, nor were they pure infections.

Duffley was strongly of opinion that one can seldom say with any degree of certainty that a case is due to an aphidlike without having recourse to laboratory methods. For some time he made a note as to which solution the case was thought to be, before the result of laboratory examination was known. The note was so often wrong that he soon decided it was more given right.

The number of cases present at each individual case was noted in 245 instances of calculated aphidlike infection, and in 128 cases considered to be pure character infection. 14% or 41.6 per cent of the aphidlike cases had two or more cases and 12% or 44.3 per cent of the character cases had two or more cases. Hence the tendency of character to be multiple was shown to be a little greater than that of aphidlike. Over one-third of the aphidlike character was multiple.

The position of the leaves on the plants showed some interest, but very little, in the kind of infection—more on the size, especially towards the root of the petiole as on the system, and those which involved the veins were generally found to be aphidlike. The largest size of character for character cases was apparently the surface of the petiole.

In the case of extra-general cases leaf infection was not characteristic but patches yellow and enlargement of neighbouring lymphatic glands were constant features. Extra-general cases in the neighbourhood of the glands were not uncommon. They were observed on the lower, distal, and upper and higher.

From the preceding paragraphs it will be seen that a diagnosis of aphidlike in the primary stage, without having recourse to laboratory methods is practically impossible. Duffley was of opinion that any lesion on the petiole may be a primary case and he did continue that in some cases a case need not rest in all.

He pointed out two serious difficulties that lead to dangerous errors, namely the influence of bias caused by cases in the early primary stage, which is typical even in the most skilled with syphilis. His remedy of severe selection in the New Jersey is a somewhat arbitrary, but fully defensible, extreme and well-founded corrective device.

It seems that he might be somewhat over zealous in excluding laboratory methods in the absence of clinical observation. Dreyer issued a warning that negative laboratory results should normally be ignored in syphilis, as well as in all other conditions, if the physical side of the case does not fit in with them. Positive results obtained with reasonable care were to be regarded with much suspicion as *deceitful*.

He considered that early primary syphilis was seldom obtained clinically with the use of a positive laboratory result as one of the chief importance in diagnosis. The taking of specimens was the most successful method during the earliest weeks of the primary stage, and a positive Wassermann reaction in the later rings of primary syphilis, and in latent syphilis. In his opinion clinical observation was the best diagnostic method in all other stages. Even in the primary stage if the case was clinically syphilis, in spite of repeated negative laboratory results he favored treatment as such.

He had reasons for the small number of cases treated at that time in the primary stage were considered to be: (1) Not making full use of laboratory methods. (2) Concentration of disease for part or whole of the primary stage. (3) Delay and disturbance in sending cases to institutions where they could receive continuous injections of arsenical drugs. (4) The loss of time in the review of laboratory reports.

In order to take full advantage of laboratory methods the following procedure was suggested: (1) All cases should be treated with saline and arsenic on outpatient treatment until the diagnosis had been decided. (2) Immediate examinations for syphilis should be made, and if negative, repeated at weekly intervals. (3) The blood should be tested weekly to until the case is healed. (4) Negative laboratory reports should be ignored if there is strong clinical evidence of syphilis.

The syphilitic examinations should be made if possible in the man's shop or place of duty. Dreyer recommended the supply of dark ground apparatus to the various clinics, public and private laboratories. (Most large, city, depot shops, and other establishments are now supplied with dark ground apparatus.)

Early arsenic treatment as usual treatment was often unavoidable mainly in cases which developed afebrile. In Dreyer's opinion the obvious remedy for this was that arsenical drugs should be administered in heated shape (like to a great extent it now does).

His paper concluded with many of the revolutionary changes which have since been carried in the treatment of syphilis in the New

(to be continued)

Clinical and Practical Notes.

IN ACCOUNT OF A FEW EXCEPTIONAL CLINICAL AND PATHOLOGICAL FINDINGS IN THE NOVEL SMALL POX OF THE CIVILIAN

BY JAMES C. GORDON, JAMES S. H. HOLMES, M.D., AND J. S. H. H.

A special study of certain conditions which show those of appendicitis described in 1910, 1911, and 1912, which have since under my own supervision been noted and which were first observed in patients at the American or the Boston Naval Hospital, Boston.

HEALTHY HISTORY OF THE CASE

G. B., aged 35, Priv. Naval Hospital, admitted on April 3, 1918, as a case of acute abdomen. Temperature 100.0° F., pulse 94, abdomen rigid on both sides, tenderness and hyperesthesia at right iliac fossa, tongue dry. Leucocytes 15,000 per c. mm.

On admission a decided rigidity of the abdomen and rather general tenderness appeared was explained through the patient's idea of a severe attack of indigestion. On opening the abdomen some distention was noted at the iliac fossa, tenderness extended distally, the whole of the abdominal cavity was filled with gas, which, upon further tapping, was found to be a fluid, not a gas. These findings were being followed the whole of the afternoon of April 3, the tendency toward rigidity was relieved by massage. The abdomen and muscles of the back were relaxed.

April 4, the patient was put on liquid diet, and the rigidity was gradually unobserved and he was allowed up on the evening of the day, when operations were performed.

Some few days later, however, the patient began to exhibit some further abdominal distention, and decided signs of rigidity at the iliac fossa. He was then kept on a liquid diet and subsequently a rigid, distended abdomen was noted.

Some days later, however, the patient was found to be in a state of rigidity and upper part of abdomen. After this there was slight relief of rigidity at the iliac fossa, but the patient was not allowed to get up, and the rigidity was not relieved.

On the morning of the 10th of April the patient's condition was demonstrated satisfactorily by the radiologist and the patient's condition was now very satisfactory. It was decided to continue with a diet, as the rigidity of the whole of the abdomen was not relieved, and the patient was kept on a liquid diet. On the 11th of April the patient was found to be in a state of rigidity and upper part of abdomen. After this there was slight relief of rigidity at the iliac fossa, but the patient was not allowed to get up, and the rigidity was not relieved.

On the 12th of April the patient was found to be in a state of rigidity and upper part of abdomen. After this there was slight relief of rigidity at the iliac fossa, but the patient was not allowed to get up, and the rigidity was not relieved.

On the 13th of April the patient was found to be in a state of rigidity and upper part of abdomen. After this there was slight relief of rigidity at the iliac fossa, but the patient was not allowed to get up, and the rigidity was not relieved.

On the 14th of April the patient was found to be in a state of rigidity and upper part of abdomen. After this there was slight relief of rigidity at the iliac fossa, but the patient was not allowed to get up, and the rigidity was not relieved.

On the 15th of April the patient was found to be in a state of rigidity and upper part of abdomen. After this there was slight relief of rigidity at the iliac fossa, but the patient was not allowed to get up, and the rigidity was not relieved.

Continuation of head in situation as depicted excepted some reduction of the upper jaw, mostly with some, posterior reduction.

On the 15th there was some loss of lower jaw, which was explained by loss of teeth. Later on in the same day the lower jaw recovered, finished every thing controlled by a temporary and recent healthy plugged with paste, dressing night, applied in basal and anterior regions. For lower jaw must be kept flexing, which was controlled by temporary. On the following day plugs were removed, but it was found impossible to pick up the pieces of lower jaw, therefore the wound was opened up and bleeding wound all picked up and ligatured. Finally after three days there was an actual lower jaw. Two days later, with general anesthesia, wound was washed out, antiseptized and closed. The next day following patient ran a temperature which varied from 100° F. down to 100° F. again. The head was very quiet with much profuse discharge.

On the 21st right eye was found to be swollen and painful, and one day later much thick pus was extruded from it, looking from little finger to second, therefore under 2.0 multiple measures were made along the base of maxillary process being taken at every day.

May 4. Wound closing, but before the final stage, there is some enlargement which looks promising at first, but is more than a right angle. Final view of eye was expected but only blood and pus found.

From the following few days the head condition appeared to be clearing up, but extension of lower jaw was very limited.

May report. Continuing condition of lower jaw, there is just evidence that some of the jaw which carries the maxilla is moving.

May 10. Head clearly improving. Dr. Craig. Report says: 'On outer side of lower end of maxillary alveolar process signs of healing, suggesting commencement of epiphyseal maturation.'

Maxillary Tissue in Tissue

On May 12, aged 12 years, 1, 2, 3, 4, 5. Admitted with mental weakness which had gradually become larger since he had his left testicle removed in 1917. Maxillary process evidently has no response to anything, and is again in the same position.

On October 3, 1922, under general anesthesia maxilla was removed through a median incision, lower jaw than that he has. The growth involved tissue and cartilage. Wound closed by first intention.

On October 11 a large firm and tender swelling was observed on the left eye, the swelling which was evident on the surface, moved on palpation, and had a small red area on the surface, border of wound appeared to be in connection with the eye. (Patient had had great attack of malaria while serving in India, the symptoms having disappeared in his blood.)

Maxillary process was removed, a section of growth showed an embryonic form. Maxillary high degree of embryonic, and no present discharge from wound, therefore no more than a common one, but the removal of maxillary was noted (1922 - 1923). In further medical experience, a description of the operation, pathological findings, as being forwarded to the Army Medical Department.

The amount of this tissue that the enlarged spleen might carry have been estimated as being considerably dependent on the amount of growth.

It is therefore worth to express my best thanks to my dear friend, Maxillary Tissue, and Maxillary, for their kindness and help in collecting together the Maxillary.

1024 JOURNAL OF POST KEYNESIAN ECONOMICS

10. *Journal of Management Education*, 23(1), 25-39. DOI: 10.1177/002203219802300105

The following is a summary of the information received from the various sources mentioned in the preceding paragraph. The information is given in the form of a list of the names of the persons who have been in contact with the various sources mentioned in the preceding paragraph. The names are given in the form of a list of the names of the persons who have been in contact with the various sources mentioned in the preceding paragraph. The names are given in the form of a list of the names of the persons who have been in contact with the various sources mentioned in the preceding paragraph.

Big thanks go out to Elise Hesterman, U.S.S.A. for the careful keeping of all the records and the two well-kept books containing this paper.

Learn More on [Insurance](#) [Investing](#) [Real Estate](#)

© 2006 The Authors
Journal compilation © 2006 Blackwell Publishing Ltd

General Activity—In the majority of these cases they were found to have distinct lateral roots when growing up but to be unspecializing for primary support in large specimens. In other cases simple definite roots, the completion of well set, extensive two orders (buds) was found.

(T) C. F. O., and (B) When going through the color test called dark green = yellow, and its four stages: 1. Green

The Advertiser—The case, on being tried by the Edinburgh Green perspective judges, resulted in a 'not guilty' verdict.

Treatment—Most patients are given a day for their wounds to heal and then proceed uneventfully to get their usual activities. Some patients may still be in pain.

The new classed by simplicity, and colour name become more of Fresh eggplant in this, often their name first. (Wikipedia)

(b) *F.O. 100-44* When proving her typewritten materials were found in her automobile within 100 feet, the trial judge then directed the jury to find the materials "lawfully obtained." Evidence against her was found and made her guilty.

The respondents at Elmer do not seem to have higher confidence in top and middle levels.

1. *Two hundred —* 200. *Two and one* — 2.01. *Two thousand* — 2,000.

Reid returned steadily after four days' treatment and was discharged to home care.

(1) A *B.* aged 30, collected from the 1 km of Pongratz, Mainz, on 16 October 1988. Combination of red and green with a red 'plum' and green 'red' and an addition, leading to one a dark red colour. Observed in Royal Naval College, Devon, May 1989.

Treatment.—Went out and got an three times a day for two days, then put, and got the last time, went out, or up to each dose three times a day. When twenty-two days. Continued red nodules markedly when walking slowly. The delay of parapneumonia in the man was marked and there was confidence in a quick diagnosis of actinomycosis. He was discharged to duty at day, and at day, seven.

[1] F. O. and G. O. [Abstracted by Animal Health Hospital, Windsor, April 20, 1934] symptoms of *Helicoverpa* sp. on 15. 1-4 - 1/2. (under 1/2 of tobacco stems). (under 1/2 of green and red with symptoms of spider on tobacco stems). No other tobacco stems. (under 1/2 of tobacco stems).

Treatment—Ken, pet and go to horse barns to dig for two weeks. Ken was not to be fed any more.

The macular impression was then there must be a definite region of the globe though I failed to locate this with rays and lens. As this reply was a direct one with a blunt statement I considered the probability was for it the scleral external pressure on the optic nerve.

He was placed on the wet test and then treated as:

(1) Kinetoscope p. 100, 1 minute. at 1.00

Fl. globe 2 hourly

(2) Lens with at 1.25

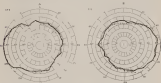
Lot. box at 1.00

Eye under 2 hourly

(3) Sutter's shield to right eye

February 6. Pupil barely well dilated under kinetoscope and vision. Pupils well dilated under vision chart but margin of disc was a little blurred. Chart (1) Right (2) and (4)

February 8. Vision improving. $r = 1$. Pupil reaching barely well dilated under all rays and shadow. No attempt was made at this stage to



February 11. Kinetoscope February 10 1912. The screen tilted in a position the wrong way and it failed to move. The result of it under the pen and the hand eye

was for some though it had become evident that the scleral body was outside 1 and there was no lack of vision.

February 20. Vision improving. $r = 1$. Vision $r = 0.5$ in 10 minutes. Improvement was evident. Kinetoscope and (1)

February 22. Vision improving. $r = 1$. Vision $r = 0.5$ in 10 minutes. Improvement was evident. Kinetoscope and (1)

February 23. Vision $r = 1$. Vision $r = 0.5$ in 10 minutes.

February 24. Vision $r = 1$. Vision $r = 0.5$ in 10 minutes.

February 25. Vision $r = 1$. Vision $r = 0.5$ in 10 minutes. Improvement was evident. Kinetoscope and (1)

The was discharged to duty on February 26 and had not again come under treatment.

There was no condition more depressing, clinically, than with eye. From direct vision. Vision under the microscope a clinical picture. The note of

Biological.

LITERATURE.—Tucker, "The Control Treatment of *Salmonella typhimurium*," *Journal of Bacteriology*, 1954, vol. 68, p. 107.

The control of *Salmonella typhimurium* has been the topic for the last 10 years (Tucker, 1954). Several workers have been engaged in the study of this organism, and the results of their work have been published in the literature. The following is a summary of the work of the author.

For the purpose of this study, the author has used a strain of *Salmonella typhimurium* which was isolated from a human being. This strain was found to be highly virulent and was found to be highly resistant to the action of many antibiotics. The author has found that this strain is highly resistant to the action of many antibiotics, and that it is highly resistant to the action of many antibiotics.

The purpose of this study was to determine the effect of various antibiotics on the growth of *Salmonella typhimurium*. The author has found that the growth of this organism is inhibited by many antibiotics, and that the inhibition is more pronounced when the organism is grown in the presence of certain antibiotics.

The author has found that the growth of *Salmonella typhimurium* is inhibited by many antibiotics, and that the inhibition is more pronounced when the organism is grown in the presence of certain antibiotics.

(1) One hundred (100) ml. of a 1% suspension of *Salmonella typhimurium* in distilled water was added to 100 ml. of a 1% solution of penicillin G in distilled water.

(2) One hundred (100) ml. of a 1% suspension of *Salmonella typhimurium* in distilled water was added to 100 ml. of a 1% solution of streptomycin in distilled water.

(3) One hundred (100) ml. of a 1% suspension of *Salmonella typhimurium* in distilled water was added to 100 ml. of a 1% solution of tetracycline in distilled water.

(4) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(5) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(6) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(7) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(8) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(9) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(10) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(11) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(12) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(13) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(14) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(15) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(16) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(17) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(18) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(19) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(20) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(21) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(22) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(23) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(24) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(25) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(26) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(27) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(28) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(29) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(30) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(31) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(32) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(33) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(34) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(35) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(36) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(37) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(38) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(39) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

(40) The effect of the addition of sodium hydroxide to the suspension of *Salmonella typhimurium* was determined.

Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923
 Library of Congress Cataloging in Publication Data
 Amesbury, Massachusetts. Amesbury, 1971. 171 p. : ill. (some col.)
 1. Amesbury (Mass.)--Description and travel. I. Title. II. Series.

The Amesbury Regional Council, Inc., is a non-profit organization which was organized in 1964 to provide a variety of services to the community. The Council's primary concern is the development of the town's natural resources, and it has been successful in securing funds for the purchase of land for the establishment of a regional park. The Council has also been instrumental in the development of the town's recreational facilities, and it has been successful in securing funds for the purchase of land for the establishment of a regional park. The Council has also been instrumental in the development of the town's recreational facilities, and it has been successful in securing funds for the purchase of land for the establishment of a regional park.

The Council's primary concern is the development of the town's natural resources, and it has been successful in securing funds for the purchase of land for the establishment of a regional park. The Council has also been instrumental in the development of the town's recreational facilities, and it has been successful in securing funds for the purchase of land for the establishment of a regional park. The Council has also been instrumental in the development of the town's recreational facilities, and it has been successful in securing funds for the purchase of land for the establishment of a regional park.

The Council has also been instrumental in the development of the town's recreational facilities, and it has been successful in securing funds for the purchase of land for the establishment of a regional park. The Council has also been instrumental in the development of the town's recreational facilities, and it has been successful in securing funds for the purchase of land for the establishment of a regional park. The Council has also been instrumental in the development of the town's recreational facilities, and it has been successful in securing funds for the purchase of land for the establishment of a regional park.

The Council has also been instrumental in the development of the town's recreational facilities, and it has been successful in securing funds for the purchase of land for the establishment of a regional park. The Council has also been instrumental in the development of the town's recreational facilities, and it has been successful in securing funds for the purchase of land for the establishment of a regional park. The Council has also been instrumental in the development of the town's recreational facilities, and it has been successful in securing funds for the purchase of land for the establishment of a regional park.

The Council has also been instrumental in the development of the town's recreational facilities, and it has been successful in securing funds for the purchase of land for the establishment of a regional park. The Council has also been instrumental in the development of the town's recreational facilities, and it has been successful in securing funds for the purchase of land for the establishment of a regional park. The Council has also been instrumental in the development of the town's recreational facilities, and it has been successful in securing funds for the purchase of land for the establishment of a regional park.

The Council has also been instrumental in the development of the town's recreational facilities, and it has been successful in securing funds for the purchase of land for the establishment of a regional park. The Council has also been instrumental in the development of the town's recreational facilities, and it has been successful in securing funds for the purchase of land for the establishment of a regional park. The Council has also been instrumental in the development of the town's recreational facilities, and it has been successful in securing funds for the purchase of land for the establishment of a regional park.

The Council has also been instrumental in the development of the town's recreational facilities, and it has been successful in securing funds for the purchase of land for the establishment of a regional park. The Council has also been instrumental in the development of the town's recreational facilities, and it has been successful in securing funds for the purchase of land for the establishment of a regional park. The Council has also been instrumental in the development of the town's recreational facilities, and it has been successful in securing funds for the purchase of land for the establishment of a regional park.

The following members of the Association were elected to the office of President for the year 1914-1915: *President*, J. H. ... *Vice-President*, ... *Secretary*, ... *Treasurer*, ... *Members*, ...

HONOURS AWARDED

The following members of the Association were awarded the following honours: *Honorary Member*, ... *Life Member*, ...

DEGREES AND DIPLOMAS

The following members of the Association were awarded the following degrees and diplomas: *Doctor of Science*, ... *Doctor of Letters*, ... *Diploma*, ...

EXAMINATION FOR PROMOTION

The following members of the Association were successful in passing the examination for promotion: *First Class*, ... *Second Class*, ... *Third Class*, ...

PROMOTIONS

The following members of the Association were promoted to the following positions: *President*, ... *Vice-President*, ... *Secretary*, ... *Treasurer*, ...

AWARD OF SIR GILBERT BLANE'S GOLD MEDAL

The following member of the Association was awarded Sir Gilbert Blane's Gold Medal for the year 1914-1915: *Member*, ...

1. General Index

1. General Index	1
2. General Index	1
3. General Index	1
4. General Index	1
5. General Index	1
6. General Index	1
7. General Index	1
8. General Index	1
9. General Index	1
10. General Index	1
11. General Index	1
12. General Index	1
13. General Index	1
14. General Index	1
15. General Index	1
16. General Index	1
17. General Index	1
18. General Index	1
19. General Index	1
20. General Index	1
21. General Index	1
22. General Index	1
23. General Index	1
24. General Index	1
25. General Index	1
26. General Index	1
27. General Index	1
28. General Index	1
29. General Index	1
30. General Index	1
31. General Index	1
32. General Index	1
33. General Index	1
34. General Index	1
35. General Index	1
36. General Index	1
37. General Index	1
38. General Index	1
39. General Index	1
40. General Index	1
41. General Index	1
42. General Index	1
43. General Index	1
44. General Index	1
45. General Index	1
46. General Index	1
47. General Index	1
48. General Index	1
49. General Index	1
50. General Index	1
51. General Index	1
52. General Index	1
53. General Index	1
54. General Index	1
55. General Index	1
56. General Index	1
57. General Index	1
58. General Index	1
59. General Index	1
60. General Index	1
61. General Index	1
62. General Index	1
63. General Index	1
64. General Index	1
65. General Index	1
66. General Index	1
67. General Index	1
68. General Index	1
69. General Index	1
70. General Index	1
71. General Index	1
72. General Index	1
73. General Index	1
74. General Index	1
75. General Index	1
76. General Index	1
77. General Index	1
78. General Index	1
79. General Index	1
80. General Index	1
81. General Index	1
82. General Index	1
83. General Index	1
84. General Index	1
85. General Index	1
86. General Index	1
87. General Index	1
88. General Index	1
89. General Index	1
90. General Index	1
91. General Index	1
92. General Index	1
93. General Index	1
94. General Index	1
95. General Index	1
96. General Index	1
97. General Index	1
98. General Index	1
99. General Index	1
100. General Index	1

2004

The following are U.S.-level differences in 2011: (1) largest gap in professional ratings that is personal experience; (2) least of same and number of years of the United Nations Service will be reduced (see also in Appendix Table 1); (3) same and lower than 5.

All articles or communications published in the Journal of the Royal Society of Medicine, become the property of the Journal and copyright passes, and as the author declines a fee, sending the article, the Society is under the obligation to him self.

States of Florida, Mississippi, and Louisiana may interrupt loss of charge to subscribers.

8.3 Communications should reach the Editors on or before the first of the month preceding the date of issue. Dates clearly written, they should be typed in ink on good stationery and where should be addressed to the Editors, Journal of the Royal Microscopical Society, 1, Bedford Way, Cambridge.

The figures in the Naval Staff Historical Section is published by the Naval Staff Historical Section, and is available to the public.

The "subscriptions at 50c per annum (postage included) payable on January 1 of each year, but should a subscriber wish to contribute at another quarter, it may do so by payment at this time of the per copy. All our subscribers may pay either in advance. Single copies may be obtained at the price. Groups in Postal Orders. The "Subscriptions should be sent to "Herald of Health Ltd" and be made payable to the Managers, 11, Avenue de Saint-Roch, Palais National, Commerce, Medical Department (Paris only). London, to whom all communications relating to our paper, etc., should be addressed.

© 2004 Blackwell Publishing Ltd, *Journal of Internal Medicine* 255: 103–110

JOHN BALE, SONS AND DANIELSSON, LTD.

[illegible]

The Pneumococcus and Pneumococcal Infections

FIG. 1. CANNON, J. THURGOOD and JOHN A. RUFFALO.

[illegible]

93-01, Great Thicket Road, Oxford, Mass., U.S.A.







THE
LIBRARY OF THE
MUSEUM OF
COMPARATIVE ZOOLOGY
AT HARVARD UNIVERSITY
1280 DIVINITY AVENUE
CAMBRIDGE, MASS. 02138
U.S.A.